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Template for writing LHCb papers

LHCb collaboration[†]

Abstract

Guidelines for the preparation of LHCb documents are given. This is a "living" document that should reflect our current practice. It is expected that these guidelines are implemented for papers before they go into the first collaboration wide review. Please contact the Editorial Board chair if you have suggestions for modifications. This is the title page for journal publications (PAPER). For a CONF note or ANA note, switch to the appropriate template by uncommenting the corresponding line in the file `main.tex`.

Submitted to JHEP / Phys. Rev. D / Phys. Rev. Lett. / Eur. Phys. J. C / Chin. Phys. C / Nature Physics / sciPost Physics / J. Instr. / Instruments

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1 Introduction

This is the template for typesetting LHCb notes and journal papers. It should be used for any document in LHCb [1] that is to be publicly available. The format should be used for uploading to preprint servers and only afterwards should specific typesetting required for journals or conference proceedings be applied. The main LaTeX file contains several options as described in the LaTeX comment lines.

It is expected that these guidelines are implemented for papers already before they go into the first collaboration wide review. These guidelines are here to help proponents write a good paper, but they also implement the "LHCb style". This style is based on previous decisions by the Editorial Board. They are neither wrong or right, but help keeping a similar look-and-feel for all LHCb papers.

This template also contains the guidelines for how publications and conference reports should be written. The symbols defined in `lhcb-symbols-def.tex` are compatible with LHCb guidelines.

The front page should be adjusted according to what is written. Default versions are available for papers, conference reports and analysis notes. Just comment out what you require in the `main.tex` file.

This directory contains a file called `Makefile`. Typing `make` will apply all LaTeX and Bibtex commands in the correct order to produce a pdf file of the document. The default LaTeX compiler is pdflatex, which requires figures to be in pdf format. To change to plain LaTeX, edit line 10 of `Makefile`. Typing `make clean` will remove all temporary files generated by (pdf)latex.

There is also a PRL template, which is called `main-prl.tex`. You need to have REVTeX 4.1 installed [2] to compile this. Typing `make prl` produces a PRL-style PDF file. Note that this version is not meant for LHCb-wide circulation, nor for submission to the arXiv. It is just available to have a look-and-feel of the final PRL version. Typing `make count` will count the words in the main body.

This template now lives on `gitlab` at https://gitlab.cern.ch/lhcb-docs/templates/. It can be downloaded and used locally, or used to create a new `gitlab` project, or a project on https://www.overleaf.com/. The latter will be required for paper drafts during EB process.

To ease finding text and comments in https://www.overleaf.com/ it is recommended to put the main text of the paper in a single file (except for huge documents). Therefore the template is now no longer organised in files by section.

2 General principles

The main goal is for a paper to be clear. It should be as brief as possible, without sacrificing clarity. For all public documents, special consideration should be given to the fact that the reader will be less familiar with LHCb than the author.

Here follow a list of general principles that should be adhered to:

1. Choices that are made concerning layout and typography should be consistently applied throughout the document.

2. Standard English should be used (British rather than American) for LHCb notes and preprints. Examples: colour, flavour, centre, metre, modelled and aluminium.

Words ending on -ise or -isation (polarise, hadronisation) can be written with -ize or -ization ending but should be consistent. The punctuation normally follows the closing quote mark of quoted text, rather than being included before the closing quote. Footnotes come after punctuation. Papers to be submitted to an American journal can be written in American English instead. Under no circumstance should the two be mixed.

3. Use of jargon should be avoided where possible. “Systematics” are “systematic uncertainties”, “L0” is “hardware trigger”, Monte-Carlo” is “simulation”, “penguin” diagrams are best introduced with an expression like “electroweak loop (penguin) diagrams”, “cuts” are “selection requirements”. The word “error” is ambiguous as it can mean the difference between the true and measured values or your estimate thereof. The same applies to event, that we usually take to mean the whole *pp* collision; candidate or decay can be used instead.” Use the sentence ”In the selection (or trigger), X% of the events are randomly discarded .... ” (and motivate for this) instead of using the word ”prescale”

4. It would be good to avoid using quantities that are internal jargon and/or are impossible to reproduce without the full simulation, *i.e.* instead of “It is required that $\chi^2_{\text{vtx}} < 3$”, to say “A good quality vertex is required”; instead of “It is required that $\chi^2_{\text{IP}} > 16$”, to say “The track is inconsistent with originating from a PV”; instead of “A DLL greater than 20 is required” say to “Tracks are required to be identified as kaons”. However, experience shows that some journal referees ask for exactly this kind of information, and to safeguard against this, one may consider given some of it in the paper, since even if the exact meaning may be LHCb-specific, it still conveys some qualitative feeling for the significance levels required in the varies steps of the analysis.

5. LaTeX should be used for typesetting. Line numbering should be switched on for drafts that are circulated for comments.

6. The abstract should be concise, and not include citations or numbered equations, and should give the key results from the paper.

7. Apart from descriptions of the detector, the trigger and the simulation, the text should not be cut-and-pasted from other sources that have previously been published.

8. References should usually be made only to publicly accessible documents. References to LHCb conference reports and public notes should be avoided in journal publications, instead including the relevant material in the paper itself.

9. The use of tenses should be consistent. It is recommended to mainly stay in the present tense, for the abstract, the description of the analysis, *etc.*; the past tense is then used where necessary, for example when describing the data taking conditions.

10. It is recommended to use the passive rather than active voice: “the mass is measured”, rather than “we measure the mass”. Limited use of the active voice is acceptable, in situations where re-writing in the passive form would be cumbersome, such as for the acknowledgements. Some leeway is permitted to accommodate different author’s

styles, but "we" should not appear excessively in the abstract or the first lines of introduction or conclusion.

11. A sentence should not start with a variable, a particle or an acronym. A title or caption should not start with an article.

12. Incorrect punctuation around conjunctive adverbs and the use of dangling modifiers are the two most common mistakes of English grammar in LHCb draft papers. If in doubt, read the wikipedia articles on conjunctive adverb and dangling modifier.

13. When using natural units, at the first occurrence of an energy unit that refers to momentum or a radius, add a footnote: "Natural units with $\hbar = c = 1$ are used throughout." Do this even when somewhere a length is reported in units of mm. It's not 100% consistent, but most likely nobody will notice. The problem can be trivially avoided when no lengths scales in natural units occur, by omitting the $\hbar$ from the footnote text.

14. Papers dealing with amplitude analyses and/or resonance parameters, other than masses and lifetimes, should use natural units, since in these kind of measurements widths are traditionally expressed in MeV and radii in GeV^{-1}. It's also the convention used by the PDG.

15. Papers quoting upper limits should give the both the 90% and 95% confidence level values in the text. Only one of these needs to be quoted in the abstract and summary.

3 Layout

1. Unnecessary blank space should be avoided, between paragraphs or around figures and tables.

2. Figure and table captions should be concise and use a somewhat smaller typeface than the main text, to help distinguish them. This is achieved by inserting `\small` at the beginning of the caption. (NB with the latest version of the file `preamble.tex` this is automatic) Figure captions go below the figure, table captions go above the table.

3. Captions and footnotes should be punctuated correctly, like normal text. The use of too many footnotes should be avoided: typically they are used for giving commercial details of companies, or standard items like coordinate system definition or the implicit inclusion of charge-conjugate processes.[1,2,3]

[1] If placed at the end of a sentence, the footnote symbol normally follows the punctuation; if placed in the middle of an equation, take care to avoid any possible confusion with an index.

[2] The standard footnote reads: "The inclusion of charge-conjugate processes is implied throughout." This may need to be modified, for example with "except in the discussion of asymmetries."

[3] The LHCb coordinate system is right-handed, with the z axis pointing along the beam axis, y the vertical direction, and x the horizontal direction. The (x, z) plane is the bending plane of the dipole magnet.

Table 1: Background-to-signal ratio estimated in a $\pm 50\,\mathrm{MeV}/c^2$ mass window for the prompt and long-lived background sources, and the minimum bias rate. In this table, as the comparison of numbers among columns is not critical, the value 11 ± 2 may also be typeset without the space.

Channel	B_{pr}/S	B_{LL}/S	MB rate
$B^0_s \to J/\psi\phi$	1.6 ± 0.6	0.51 ± 0.08	~ 0.3 Hz
$B^0 \to J/\psi K^{*0}$	$11 \quad \pm 2$	$1.5 \quad \pm 0.1$	~ 8.1 Hz
$B^+ \to J/\psi K^{*+}$	1.6 ± 0.2	0.29 ± 0.06	~ 1.4 Hz

4. Tables should be formatted in a simple fashion, without excessive use of horizontal and vertical lines. Numbers should be vertically aligned on the decimal point and $\pm$ symbol. (`\phantom{0}` may help, or defining column separators as `@{\:$\pm$\:}`) See Table 1 for an example.

5. Figures and tables should normally be placed so that they appear on the same page as their first reference, but at the top or bottom of the page; if this is not possible, they should come as soon as possible afterwards. They must all be referred to from the text.

6. If one or more equations are referenced, all equations should be numbered using parentheses as shown in Eq. 1,

$$V_{us}V^*_{ub} + V_{cs}V^*_{cb} + V_{ts}V^*_{tb} = 0 \; . \tag{1}$$

7. Displayed results like

$$\mathcal{B}(B^0_s \to \mu^+\mu^-) < 1.5 \times 10^{-8} \text{ at } 95\% \text{ CL}$$

should in general not be numbered.

8. Numbered equations should be avoided in captions and footnotes.

9. Displayed equations are part of the normal grammar of the text. This means that the equation should end in full stop or comma if required when reading aloud. The line after the equation should only be indented if it starts a new paragraph.

10. Equations in text should be put between a single pair of $ signs. `\mbox{...}` ensures they are not split over several lines. So $\epsilon_{\text{trigger}} = (93.9 \pm 0.2)\%$ is written as `\mbox{$\epsilon_\text{trigger}=(93.9\pm0.2)\%$}` and not as `$\epsilon_\text{trigger}$=(93.9$\pm$0.2)\%` which generates the oddly-spaced $\epsilon_{\text{trigger}}$=(93.9$\pm$0.2)%.

11. Sub-sectioning should not be excessive: sections with more than three levels of index (1.1.1) should be avoided.

12. Acronyms should be defined the first time they are used, *e.g.* "A dedicated boosted decision tree (BDT) is designed to select doubly Cabibbo-suppressed (DCS) decays." The abbreviated words should not be capitalised if it is not naturally written with

capitals, *e.g.* quantum chromodynamics (QCD), impact parameter (IP), boosted decision tree (BDT). Avoid acronyms if they are used three times or less. A sentence should never start with an acronym and its better to avoid it as the last word of a sentence as well.

13. Section (and subsection) titles containing math symbols should use boldmath.

4 Typography

The use of the LaTeX typesetting symbols defined in the file `lhcb-symbols-def.tex` and detailed in the appendices of this document is strongly encouraged as it will make it much easier to follow the recommendation set out below.

1. LHCb is typeset with a normal (roman) lowercase b.

2. Titles are in bold face, and usually only the first word is capitalised.

3. Mathematical symbols and particle names should also be typeset in bold when appearing in titles.

4. Units are in roman type, except for constants such as c or h that are italic: GeV, GeV/c^2. The unit should be separated from the value with a thin space (“`\,`”), and they should not be broken over two lines. Correct spacing is automatic when using predefined units inside math mode: `$3.0\gev$` → 3.0 GeV. Spacing goes wrong when using predefined units outside math mode AND forcing extra space: `3.0\,\gev` → 3.0 GeV or worse: `3.0~\gev` → 3.0 GeV.

5. If factors of c are kept, they should be used both for masses and momenta, *e.g.* $p = 5.2\,\text{GeV}/c$ (or $\text{GeV}c^{-1}$), $m = 3.1\,\text{GeV}/c^2$ (or $\text{GeV}c^{-2}$). If they are dropped this should be done consistently throughout, and a note should be added at the first instance to indicate that units are taken with $c = 1$. Note that there is no consensus on whether decay widths Γ are in MeV or MeV/c^2 (the former is more common). Both are accepted if consistent.

6. The % sign should not be separated from the number that precedes it: 5%, not 5 %. A thin space is also acceptable: 5 %, but should be applied consistently throughout the paper.

7. Ranges should be formatted consistently. The recommended form is to use a dash with no spacing around it: 7–8 GeV, obtained as `7--8\gev`. Another possibility is “7 to 8 GeV”.

8. Italic is preferred for particle names (although roman is acceptable, if applied consistently throughout). Particle Data Group conventions should generally be followed: B^0 (no need for a “d” subscript), $B^0_s \to J/\psi\phi$, $\overline{B}{}^0_s$, (note the long bar, obtained with `\overline`, in contrast to the discouraged short `\bar{B}` resulting in $\bar{B}$), K^0_S (note the uppercase roman type “S”). This is most easily achieved by using the predefined symbols described in Appendix C.

Italic is also used for particles whose name is an uppercase Greek letter: $\mathit{\Upsilon}$, $\mathit{\Delta}$, $\mathit{\Xi}$, $\mathit{\Lambda}$, $\mathit{\Sigma}$, $\mathit{\Omega}$, typeset as `\Upsilonres`, `\Deltares`, `\Xires`, `\Lambdares`, `\Sigmares`, `\Omegares` (or with the appropriate macros adding charge and subscripts). Paper titles in the bibliography must be adapted accordingly. Note that the $\mathit{\Lambda}$ baryon has no zero, while the $\mathit{\Lambda}_b^0$ baryon has one. That's historical.

9. Unless there is a good reason not to, the charge of a particle should be specified if there is any possible ambiguity ($m(K^+K^-)$ instead of $m(KK)$, which could refer to neutral kaons).

10. Decay chains can be written in several ways, depending on the complexity and the number of times it occurs. Unless there is a good reason not to, usage of a particular type should be consistent within the paper. Examples are: $D_s^+ \to \phi\pi^+$, with $\phi \to K^+K^-$; $D_s^+ \to \phi\pi^+$ ($\phi \to K^+K^-$); $D_s^+ \to \phi(K^+K^-)\pi^+$; or $D_s^+ \to [K^+K^-]_\phi\pi^+$.

11. Variables are usually italic: V is a voltage (variable), while 1 V is a volt (unit). Also in combined expressions: Q-value, z-scale, R-parity *etc.*

12. Subscripts and superscripts are roman type when they refer to a word (such as T for transverse) and italic when they refer to a variable (such as t for time): p_{T}, Δm_s, t_{rec}.

13. Standard function names are in roman type: *e.g.* cos, sin and exp.

14. Figure, Section, Equation, Chapter and Reference should be abbreviated as Fig., Sect. (or alternatively Sec.), Eq., Chap. and Ref. respectively, when they refer to a particular (numbered) item, except when they start a sentence. Table and Appendix are not abbreviated. The plural form of abbreviation keeps the point after the s, *e.g.* Figs. 1 and 2. Equations may be referred to either with ("Eq. (1)") or without ("Eq. 1") parentheses, but it should be consistent within the paper.

15. Common abbreviations derived from Latin such as "for example" (*e.g.*), "in other words" (*i.e.*), "and so forth" (*etc.*), "and others" (*et al.*), "versus" (*vs.*) can be used, with the typography shown, but not excessively; other more esoteric abbreviations should be avoided.

16. Units, material and particle names are usually lower case if spelled out, but often capitalised if abbreviated: amps (A), gauss (G), lead (Pb), silicon (Si), kaon (K), but proton (p).

17. Counting numbers are usually written in words if they start a sentence or if they have a value of ten or below in descriptive text (*i.e.* not including figure numbers such as "Fig. 4", or values followed by a unit such as "4 cm"). The word 'unity' can be useful to express the special meaning of the number one in expressions such as: "The BDT output takes values between zero and unity".

18. Numbers larger than 9999 have a small space between the multiples of thousand: *e.g.* 10 000 or 12 345 678. The decimal point is indicated with a point rather than a comma: *e.g.* 3.141.

19. We apply the rounding rules of the PDG [3]. The basic rule states that if the three highest order digits of the uncertainty lie between 100 and 354, we round to two significant digits. If they lie between 355 and 949, we round to one significant digit. Finally, if they lie between 950 and 999, we round up and keep two significant digits. In all cases, the central value is given with a precision that matches that of the uncertainty. So, for example, the result 0.827 ± 0.119 should be written as 0.83 ± 0.12, 0.827 ± 0.367 should turn into 0.8 ± 0.4, and 14.674 ± 0.964 becomes 14.7 ± 1.0. When writing numbers with uncertainty components from different sources, *i.e.* statistical and systematic uncertainties, the rule applies to the uncertainty with the best precision, so $0.827 \pm 0.367\,(\text{stat}) \pm 0.179\,(\text{syst})$ goes to $0.83 \pm 0.37\,(\text{stat}) \pm 0.18\,(\text{syst})$ and $8.943 \pm 0.123\,(\text{stat}) \pm 0.995\,(\text{syst})$ goes to $8.94 \pm 0.12\,(\text{stat}) \pm 1.00\,(\text{syst})$.

20. When rounding numbers, it should be avoided to pad with zeroes at the end. So 51237 ± 4561 should be rounded as $(5.12 \pm 0.46) \times 10^4$ rather than 51200 ± 4600. Zeroes are accepted for yields.

21. When rounding numbers in a table, some variation of the rounding rules above may be required to achieve uniformity.

22. Hyphenation should be used where necessary to avoid ambiguity, but not excessively. For example: “big-toothed fish” (to indicate that big refers to the teeth, not to the fish), but “big white fish”. A compound modifier often requires hyphenation (*CP*-violating observables, *b*-hadron decays, final-state radiation, second-order polynomial), even if the same combination in an adjective-noun combination does not (direct *CP* violation, heavy *b* hadrons, charmless final state). Adverb-adjective combinations are not hyphenated if the adverb ends with 'ly': oppositely charged pions, kinematically similar decay. Words beginning with “all-”, “cross-”, “ex-” and “self-” are hyphenated *e.g.* cross-section and cross-check. “two-dimensional” is hyphenated. Words beginning with small prefixes (like “anti”, “bi”, “co”, “contra”, “counter”, “de”, “extra”, “infra”, “inter”, “intra”, “micro”, “mid”, “mis”, “multi”, “non”, “over”, “peri”, “post”, “pre”, “pro”, “proto”, “pseudo”, “re”, “semi”, “sub”, “super”, “supra”, “trans”, “tri”, “ultra”, “un”, “under” and “whole”) are single words and should not be hyphenated *e.g.* semileptonic, pseudorapidity, pseudoexperiment, multivariate, multidimensional, reweighted,[4] preselection, nonresonant, nonzero, nonparametric, nonrelativistic, antiparticle, misreconstructed and misidentified.

23. Minus signs should be in a proper font (-1), not just hyphens (-1); this applies to figure labels as well as the body of the text. In LaTeX, use math mode (between `$$`'s) or make a dash (“`--`”). In ROOT, use `#minus` to get a normal-sized minus sign.

24. Inverted commas (around a title, for example) should be a matching set of left- and right-handed pairs: “Title”. The use of these should be avoided where possible.

25. Single symbols are preferred for variables in equations, *e.g.* $\mathcal{B}$ rather than BF for a branching fraction.

[4] Note that we write weighted unless it's the second weighting

26. Parentheses are not usually required around a value and its uncertainty, before the unit, unless there is possible ambiguity: so $\Delta m_s = 20 \pm 2\,\text{ps}^{-1}$ does not need parentheses, whereas $f_d = (40 \pm 4)\%$ or $x = (1.7 \pm 0.3) \times 10^{-6}$ does. The unit does not need to be repeated in expressions like $1.2 < E < 2.4\,\text{GeV}$.

27. The same number of decimal places should be given for all values in any one expression (*e.g.* $5.20 < m_B < 5.34\,\text{GeV}/c^2$).

28. Apostrophes are best avoided for abbreviations: if the abbreviated term is capitalised or otherwise easily identified then the plural can simply add an s, otherwise it is best to rephrase: *e.g.* HPDs, pions, rather than HPD's, π^0's, πs.

29. Particle labels, decay descriptors and mathematical functions are not nouns, and need often to be followed by a noun. Thus "background from $B^0 \to \pi^+\pi^-$ decays" instead of "background from $B^0 \to \pi^+\pi^-$", and "the width of the Gaussian function" instead of "the width of the Gaussian".

30. In equations with multidimensional integrations or differentiations, the differential terms should be separated by a thin space and the d should be in roman. Thus $\int f(x,y)\mathrm{d}x\,\mathrm{d}y$ instead $\int f(x,y)dxdy$ and $\frac{\mathrm{d}^2\Gamma}{\mathrm{d}x\,\mathrm{d}Q^2}$ instead of $\frac{\mathrm{d}^2\Gamma}{\mathrm{d}x\mathrm{d}Q^2}$.

31. Double-barrelled names are typeset with a hyphen (`-`), as in Gell-Mann, but joined named use an n-dash (`--`), as in Breit–Wigner or Cabibbo–Kobayashi–Maskawa is preferable to indicate the collaboration between these individuals.

32. Avoid gendered words. Mother is rarely needed. Daughter can be a decay product or a final-state particle. Bachelor can be replaced by companion.

5 Detector, simulation and analysis

This section will cover the detector description for the Run 1 and 2 detector. For additional considerations concerning the upgraded LHCb detector, please see Sec. 5.1 below.

The paragraph below can be used for the detector description. Modifications may be required in specific papers to fit within page limits, to enhance particular detector elements or to introduce acronyms used later in the text. For journals where strict word counts are applied (for example, PRL), and space is at a premium, it may be sufficient to write, as a minimum: "The LHCb detector is a single-arm forward spectrometer covering the pseudorapidity range $2 < \eta < 5$, described in detail in Refs. [1,4]". A slightly longer version could specify the most relevant sub-detectors, *e.g* "The LHCb detector [1,4] is a single-arm forward spectrometer covering the pseudorapidity range $2 < \eta < 5$, designed for the study of particles containing b or c quarks. The detector elements that are particularly relevant to this analysis are: a silicon-strip vertex detector surrounding the pp interaction region that allows c and b hadrons to be identified from their characteristically long flight distance; a tracking system that provides a measurement of the momentum, p, of charged particles; and two ring-imaging Cherenkov detectors that are able to discriminate between different species of charged hadrons."

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In the following paragraph, references to the individual detector
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performance papers are marked with a * and should only be included if the analysis relies on numbers or methods described in the specific papers. Otherwise, a reference to the overall detector performance paper~\cite{LHCb-DP-2014-002} will suffice. Note also that the text defines the acronyms for primary vertex, PV, and impact parameter, IP. Remove either of those in case it is not used later on.

The LHCb detector [1, 4] is a single-arm forward spectrometer covering the pseudorapidity range $2 < \eta < 5$, designed for the study of particles containing b or c quarks. The detector includes a high-precision tracking system consisting of a silicon-strip vertex detector surrounding the pp interaction region [5]$*$, a large-area silicon-strip detector located upstream of a dipole magnet with a bending power of about $4\,\mathrm{T\,m}$, and three stations of silicon-strip detectors and straw drift tubes [6, 7]$*$[5] placed downstream of the magnet. The tracking system provides a measurement of the momentum, p, of charged particles with a relative uncertainty that varies from 0.5% at low momentum to 1.0% at $200\,\mathrm{GeV}/c$. The minimum distance of a track to a primary pp collision vertex (PV), the impact parameter (IP), is measured with a resolution of $(15+29/p_{\mathrm{T}})\,\mu\mathrm{m}$, where p_{T} is the component of the momentum transverse to the beam, in GeV/c. Different types of charged hadrons are distinguished using information from two ring-imaging Cherenkov detectors [8]$*$. Photons, electrons and hadrons are identified by a calorimeter system consisting of scintillating-pad and preshower detectors, an electromagnetic and a hadronic calorimeter. Muons are identified by a system composed of alternating layers of iron and multiwire proportional chambers [9]$*$. The online event selection is performed by a trigger [10]$*$, which consists of a hardware stage, based on information from the calorimeter and muon systems, followed by a software stage, which applies a full event reconstruction.

A more detailed description of the 'full event reconstruction' could be:

- The trigger [10]$*$ consists of a hardware stage, based on information from the calorimeter and muon systems, followed by a software stage, in which all charged particles with $p_{\mathrm{T}} > 500\,(300)\,\mathrm{MeV}$ are reconstructed for 2011 (2012) data. For triggers that require neutral particles, energy deposits in the electromagnetic calorimeter are analysed to reconstruct π^0 and γ candidates.

The trigger description has to be specific for the analysis in question. In general, you should not attempt to describe the full trigger system. Below are a few variations that inspiration can be taken from. First from a hadronic analysis, and second from an analysis with muons in the final state. In case you have to look up specifics of a certain trigger, a detailed description of the trigger conditions for Run 1 is available in Ref. [11]. **Never cite this note in a PAPER or CONF-note.**

- At the hardware trigger stage, events are required to have a muon with high p_{T} or a hadron, photon or electron with high transverse energy in the calorimeters. For hadrons, the transverse energy threshold is $3.5\,\mathrm{GeV}$. The software trigger requires a two-, three- or four-track secondary vertex with a significant displacement from any primary pp interaction vertex. At least one charged particle must have a transverse momentum $p_{\mathrm{T}} > 1.6\,\mathrm{GeV}/c$ and be inconsistent with originating from a PV. A

[5] Cite Ref. [6] for Run 1 analyses and Ref. [7] if Run 2 data is used.

multivariate algorithm [12, 13][6] is used for the identification of secondary vertices consistent with the decay of a b hadron.

- The $B^0 \to K^{*0}\mu^+\mu^-$ signal candidates are first required to pass the hardware trigger, which selects events containing at least one muon with transverse momentum $p_T > 1.48$ GeV/c in the 7 TeV data or $p_T > 1.76$ GeV/c in the 8 TeV data. In the subsequent software trigger, at least one of the final-state particles is required to have $p_T > 1.7$ GeV/c in the 7 TeV data or $p_T > 1.6$ GeV/c in the 8 TeV data, unless the particle is identified as a muon in which case $p_T > 1.0$ GeV/c is required. The final-state particles that satisfy these transverse momentum criteria are also required to have an impact parameter larger than 100 μm with respect to all PVs in the event. Finally, the tracks of two or more of the final-state particles are required to form a vertex that is significantly displaced from any PV."

For analyses using the Turbo stream, the following paragraph may be used to describe the trigger.

- The online event selection is performed by a trigger which consists of a hardware stage followed by a two-level software stage. In between the two software stages, an alignment and calibration of the detector is performed in near real-time and their results are used in the trigger [14]. The same alignment and calibration information is propagated to the offline reconstruction, ensuring consistent and high-quality particle identification (PID) information between the trigger and offline software. The identical performance of the online and offline reconstruction offers the opportunity to perform physics analyses directly using candidates reconstructed in the trigger [10, 15] which the present analysis exploits. The storage of only the triggered candidates enables a reduction in the event size by an order of magnitude.

An example to describe the use of both TOS and TIS candidates:

- In the offline selection, trigger signals are associated with reconstructed particles. Selection requirements can therefore be made on the trigger selection itself and on whether the decision was due to the signal candidate, other particles produced in the pp collision, or a combination of both.

A good example of a description of long and downstream K^0_S is given in Ref. [16]:

- Decays of $K^0_S \to \pi^+\pi^-$ are reconstructed in two different categories: the first involving K^0_S mesons that decay early enough for the pions to be reconstructed in the vertex detector; and the second containing K^0_S that decay later such that track segments of the pions cannot be formed in the vertex detector. These categories are referred to as *long* and *downstream*, respectively. The long category has better mass, momentum and vertex resolution than the downstream category.

Before describing the simulation, explain in one sentence why simulation is needed. The following paragraph can act as inspiration but with variations according to the level of detail required and if mentioning of *e.g.* PHOTOS and `ReDecay` is required.

[6] Ref. [13] is oly for Run 2.

- Simulation is required to model the effects of the detector acceptance and the imposed selection requirements. In the simulation, pp collisions are generated using Pythia [17] (In case only Pythia 6 is used, remove `*Sjostrand:2007gs` from this citation.) with a specific LHCb configuration [18]. Decays of unstable particles are described by EvtGen [19], in which final-state radiation is generated using Photos [20]. The interaction of the generated particles with the detector, and its response, are implemented using the Geant4 toolkit [21] as described in Ref. [22]. The underlying pp interaction is reused multiple times, with an independently generated signal decay for each [23].[7]

A sentence useful to describe simulation reweighing to match data is: The simulated samples are corrected to account for known data-simulation differences in the $B/B^0/B^0_s\Lambda^0_b$ production kinematics and detector occupancy, as well as track reconstruction, particle identification and trigger efficiencies.

A quantity often used in LHCb analyses is χ^2_{IP}. When mentioning it in a paper, the following wording could be used: "…χ^2_{IP} with respect to any primary interaction vertex greater than X, where χ^2_{IP} is defined as the difference in the vertex-fit χ^2 of a given PV reconstructed with and without the track under consideration/being considered."[8] This definition can then be used to define the associated PV.[9] However, χ^2_{IP} should not be defined just to explain which PV is taken as associated. Instead one can write "The PV that fits best to the flight direction of the B candidate is taken as the associated PV."

Many analyses depend on boosted decision trees. It is inappropriate to use TMVA [24] as sole reference as that is merely an implementation of the BDT algorithm. Rather it is suggested to write: "In this paper we use a boosted decision tree (BDT) [25, 26] implemented in the TMVA toolkit [24] to separate signal from background".

When describing the integrated luminosity of the data set, do not use expressions like "$1.0\,\text{fb}^{-1}$ of data", but *e.g.* "data sample corresponding to an integrated luminosity of $1.0\,\text{fb}^{-1}$", or "a sample of data obtained from $3\,\text{fb}^{-1}$ of integrated luminosity".

For analyses where the periodical reversal of the magnetic field is crucial, *e.g.* in measurements of direct CP violation, the following description can be used as an example phrase:

- The magnetic field deflects oppositely charged particles in opposite directions and this can lead to detection asymmetries. Periodically reversing the magnetic field polarity throughout the data-taking almost cancels the effect. The configuration with the magnetic field pointing upwards (downwards), *MagUp* (*MagDown*), bends positively (negatively) charged particles in the horizontal plane towards the centre of the LHC ring.

Only use the *MagUp*, *MagDown* symbols if they are used extensively in tables or figures.

If the momentum scaling has been applied and is relevant, add text along the lines of

- The momentum scale is calibrated using samples of $J/\psi \to \mu^+\mu^-$ and $B^+ \to J/\psi K^+$ decays collected concurrently with the data sample used for this

[7] This sentence is to be added only if `ReDecay` is used.

[8] If this sentence is used to define χ^2_{IP} for a composite particle instead of for a single track, replace "track" by "particle" or "candidate".

[9] known as "best" PV in DaVinci. Use the word "associated", not "best".

analysis [27, 28]. The relative accuracy of this procedure is estimated to be 3×10^{-4} using samples of other fully reconstructed b hadrons, Υ and K^0_S mesons.

When describing "blind analysis", consider adding the following sentence:

- In order to avoid experimenter's bias, the results of the analysis were not examined until the full procedure had been finalised.

5.1 LHCb Upgrade detector

For analyses using Run 3 data, the detector description will be different, of course. The very short and short forms, could read the same, but with an added reference:

- The LHCb detector is a single-arm forward spectrometer covering the pseudorapidity range $2 < \eta < 5$, described in detail in Refs. [1, 4, 29].

- The LHCb detector [1, 4, 29] is a single-arm forward spectrometer covering the pseudorapidity range $2 < \eta < 5$, designed for the study of particles containing b or c quarks. The detector elements that are particularly relevant to this analysis are: a silicon-pixel vertex detector surrounding the pp interaction region that allows c and b hadrons to be identified from their characteristically long flight distance; a tracking system that provides a measurement of the momentum, p, of charged particles; and two ring-imaging Cherenkov detectors that are able to discriminate between different species of charged hadrons, an electromagnetic calorimeter to reconstruct electrons and photons and a muon system to identify muons.

The longer version could read something like the following:

- The LHCb detector [1, 4, 29] is a single-arm forward spectrometer covering the pseudorapidity range $2 < \eta < 5$, designed for the study of particles containing b or c quarks. The detector has been substantially upgraded prior to the Run 3 data-taking period, which started in 2022. The upgraded detector was designed to match the performance of the Run 1-2 detector, while allowing it to operate at approximately five times the luminosity. Simulation studies show the upgraded detector meeting these performance goals [29]. The high-precision tracking system has been fully replaced and consists of a silicon-pixel vertex detector surrounding the pp interaction region [30]∗, a large-area silicon-strip detector [31]∗ located upstream of a dipole magnet with a bending power of about $4\,\mathrm{T\,m}$, and three stations of scintillating fibre detectors [31]∗ Different types of charged hadrons are distinguished using information from two ring-imaging Cherenkov detectors [8, 32]∗. The whole photon detection system of the Cherenkov detectors has been renewed for the upgraded detector. Photons, electrons and hadrons are identified by a calorimeter system consisting of electromagnetic and hadronic calorimeters. Muons are identified by a system composed of alternating layers of iron and multiwire proportional chambers [9]∗. Readout of all detectors into an all-software trigger [33]∗ is a central feature of the upgraded detector, facilitating the reconstruction of events at the maximum LHC interaction rate, and their selection in real time. The trigger system is implemented in two stages: a first inclusive stage based primarily on charged particle reconstruction which reduces the data volume by roughly a factor of 20, and a second stage, which

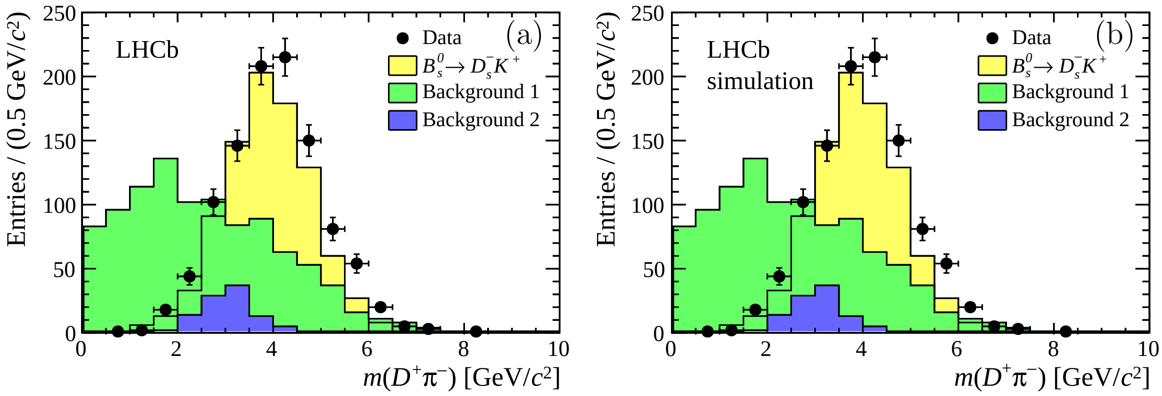

Figure 1: Example plots for (a) data and (b) simulation using the LHCb style from the Urania package `RootTools/LHCbStyle`. The signal data is shown as points with the signal component as yellow (light shaded), background 1 as green (medium shaded) and background 2 as blue (dark shaded).

performs the full offline-quality reconstruction and selection of physics signatures. A large disk buffer is placed between these stages to hold the data while the real-time alignment and calibration is being performed.

Note that it will generally be appropriate to add more detail on the trigger algorithms used, but this will depend on the specific analysis.

6 Figures

A standard LHCb style file for use in production of figures in Root is in git at `https://gitlab.cern.ch/lhcb-docs/lhcbstyle`. It is not mandatory to use this style, but it makes it easier to follow the recommendations below. For labelling the axis and legends it is recommended to use (as in the examples) the same text fonts as in the main text. When using ROOT to produce the plots, use the upright symbol font for text. The slanted font exists, but does not look good. It is also possible to use consistently upright sans-serif fonts for the text (slide style). However, styles should not be mixed. For particle symbols, try to use the same font (roman/italic) as is used in the text.

Pull plots are control plots, which are useful in analysis notes. Normally they are not shown in papers, unless one wants to emphasise regions where a fit does not describe the data. For satisfactory fits, in a paper it is sufficient to simply state the fact and/or give the χ^2/ndf.

Figure 1 shows an example of how to include an eps or pdf figure with the `\includegraphics` command (eps figures will not work with `pdflatex`). Note that if the graphics sits in `figs/myfig.pdf`, you can just write `\includegraphics{myfig}` as the `figs` subdirectory is searched automatically and the extension `.pdf` (`.eps`) is automatically added for `pdflatex` (`latex`).

1. Before you make a figure you should ask yourself what message you want to get across. You don't make a plot "because you can" but because it is the best illustration of your argument.

2. Figures should be legible at the size they will appear in the publication, with suitable line width. Their axes should be labelled, and have suitable units (e.g. avoid a mass plot with labels in MeV/c^2 if the region of interest covers a few GeV/c^2 and all the numbers then run together). Spurious background shading and boxes around text should be avoided.

3. For the y-axis, "Entries" or "Candidates" is appropriate in case no background subtraction has been applied. Otherwise "Yield" or "Decays" may be more appropriate. If the unit on the y-axis corresponds to the yield per bin, indicate so, for example "Entries / ($5\,\text{MeV}/c^2$)" or "Entries per $5\,\text{MeV}/c^2$".

4. Fit curves should not obscure the data points, and data points are best (re)drawn over the fit curves. In this case avoid in the caption the term "overlaid" when referring to a fit curve, and instead use the words "shown" or "drawn".

5. Colour may be used in figures, but the distinction between differently coloured areas or lines should be clear also when the document is printed in black and white, for example through differently dashed lines. The LHCb style mentioned above implements a colour scheme that works well but individual adjustments might be required.

   In particular for two-dimensional plots, never use the default "rainbow" palette from ROOT, as both extreme values will appear dark when printed in black-and-white, or viewed by colour-blind people. Printer-friendly palettes are advised. You can make your own using `colorbrewer2.org`.

6. Using different hatching styles helps to distinguished filled areas, also in black and white prints. Hatching styles 3001-3025 should be avoided since they behave unpredictably under zooming and scaling. Good styles for "falling hatched" and "rising hatched" are 3345 and 3354.

7. Figures with more than one part should have the parts labelled (a), (b) *etc.*, with a corresponding description in the caption; alternatively they should be clearly referred to by their position, e.g. Fig. 1 (left). In the caption, the labels (a), (b) *etc.* should precede their description. When referencing specific sub-figures, use "see Fig. 1(a)" or "see Figs. 2(b)-(e)".

8. All figures containing LHCb data should have "LHCb" written on them. For preliminary results, that should be replaced by "LHCb preliminary". Figures that only have simulated data should display "LHCb simulation". Figures that do not depend on LHCb-specific software (*e.g.* only on PYTHIA) should not have any label.

9. All figures containing LHCb data should have the corresponding luminosity written on them. For example, if all Run 1&2 data were analysed, write "9 fb^{-1}" in a new line underneath "LHCb". Alternatively the luminosity could be be added as "`data symbol` Data 9 fb^{-1}". For cross-section or heavy-ion papers it might be more useful to give centre-of-mass energy "$\sqrt{s} = 13\,\text{TeV}$" instead of luminosity.

10. Keep captions short. They should contain the information necessary to understand the figure, but no more. For instance the fit model does not need to be repeated. Describe the data first, then mention the fit components.

11. An example diagram depicting the angles in a $B^0_s \to K^{*0}\overline{K}^{*0}$ decay is shown in Fig. 2. The source code is provided in `figs/diagram.tex` and can be adapted to any four-body decay.[10]

7 References

References should be made using BibTEX [34]. A special style `LHCb.bst` has been created to achieve a uniform style. Independent of the journal the paper is submitted to, the preprint should be created using this style. Where arXiv numbers exist, these should be added even for published articles. In the PDF file, hyperlinks will be created to both the arXiv and the published version, using the `doi` for the latter.

Results from other experiments should be cited even if not yet published.

1. Citations are marked using square brackets, and the corresponding references should be typeset using BibTEX and the official LHCb BibTEX style.

2. For references with four or less authors all of the authors' names are listed [35], otherwise the first author is given, followed by *et al.*. The LHCb BibTEX style will take care of this. The limit of four names can be changed by changing the number 4 in "`#4 'max.num.names.before.forced.et.al :=`" in `LHCb.bst`, as was done in Ref. [36].

3. The order of references should be sequential when reading the document. This is automatic when using BibTEX.

4. The titles of papers should in general be included. To remove them, change `\setboolean{articletitles}{false}` to `true` at the top of this template.

5. Whenever possible, use references from the supplied files `main.bib`, `LHCb-PAPER.bib`, `LHCb-CONF.bib`, and `LHCB-DP.bib`. These are kept up-to-date by the EB. If you see

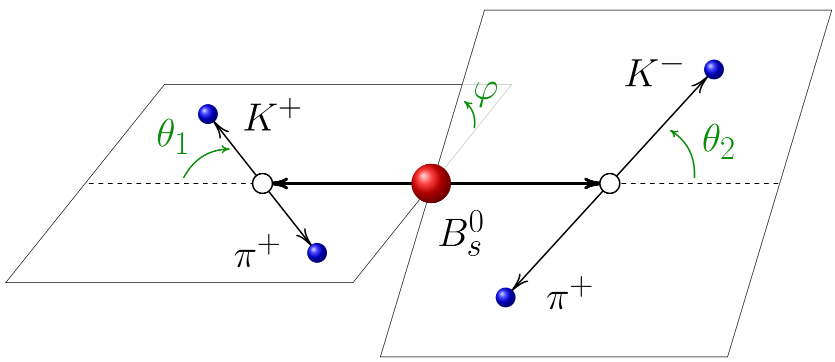

Figure 2: Definition of the angles θ_1, θ_1 and φ in the $B^0_s \to K^{*0}\overline{K}^{*0}$ decay. Image by Julian Garcia Pardinas.

[10]This is example of a footnote that goes below a floating object thanks to the `footmisc` package. Some argue this is horrid.

a mistake, do not edit these files, but let the EB know. This way, for every update of the paper, you save yourself the work of updating the references. Instead, you can just copy or check in the latest versions of the `.bib` files from the repository. **Do not take these references from `inspirehep` instead** (“`Aaaij:20XXxyz`”), as `inspirehep` sometimes adds mistakes, does not handle errata properly and does not use LHCb-specific macros.

6. For those references not provided by the EB, the best is to copy the BibTeX entry directly from inspirehep. Often these need to be edited to get the correct title, author names and formatting. The warning about special UTF8 characters should never be ignored. It usually signals a accentuated character in an author name. For authors with multiple initials, add a space between them (change `R.G.C.` to `R. G. C.`), otherwise only the first initial will be taken. Also, make sure to eliminate unnecessary capitalisation. Apart from that, the title should be respected as much as possible (*e.g.* do not change particle names to PDG convention nor introduce/remove factors of c, but do change Greek capital letters to use our slanted font.). Check that both the arXiv and the journal index are clickable and point to the right article.

7. The `mciteplus` [37] package is used to enable multiple references to show up as a single item in the reference list. As an example `\cite{Cabibbo:1963yz,*Kobayashi:1973fv}` where the `*` indicates that the reference should be merged with the previous one. The result of this can be seen in Ref. [38]. Be aware that the `mciteplus` package should be included as the very last item before the `\begin{document}` to work correctly.

8. It should be avoided to make references to public notes and conference reports in public documents. Exceptions can be discussed on a case-by-case basis with the review committee for the analysis. In internal reports they are of course welcome and can be referenced as seen in Ref. [39] using the `lhcbreport` category. For conference reports, omit the author field completely in the BibTeX record.

9. To get the typesetting and hyperlinks correct for LHCb reports, the category `lhcbreport` should be used in the BibTeX file. See Refs. [40] for some examples. It can be used for LHCb documents in the series `CONF`, `PAPER`, `PROC`, `THESIS`, `LHCC`, `TDR` and internal LHCb reports. Papers sent for publication, but not published yet, should be referred with their `arXiv` number, so the `PAPER` category should only be used in the rare case of a forward reference to a paper.

10. Proceedings can be used for references to items such as the LHCb simulation [22], where we do not yet have a published paper.

There is a set of standard references to be used in LHCb that are listed in Appendix A.

8 Acknowledgements paragraph

Include the following text in the Acknowledgements section in all paper drafts. It is not needed for analysis notes or conference reports.

The text below are the acknowledgements as approved by the collaboration board. Extending the acknowledgements to include individuals from outside the collaboration who have contributed to the analysis should be approved by the EB. The extra acknowledgements are normally placed before the standard acknowledgements, unless it matches better with the text of the standard acknowledgements to put them elsewhere. They should be included in the draft for the first circulation. Except in exceptional circumstances, to be approved by the EB chair, authors of the paper should not be named in extended acknowledgements.

Acknowledgements

We express our gratitude to our colleagues in the CERN accelerator departments for the excellent performance of the LHC. We thank the technical and administrative staff at the LHCb institutes. We acknowledge support from CERN and from the national agencies: CAPES, CNPq, FAPERJ and FINEP (Brazil); MOST and NSFC (China); CNRS/IN2P3 (France); BMBF, DFG and MPG (Germany); INFN (Italy); NWO (Netherlands); MNiSW and NCN (Poland); MCID/IFA (Romania); MICIU and AEI (Spain); SNSF and SER (Switzerland); NASU (Ukraine); STFC (United Kingdom); DOE NP and NSF (USA). We acknowledge the computing resources that are provided by CERN, IN2P3 (France), KIT and DESY (Germany), INFN (Italy), SURF (Netherlands), PIC (Spain), GridPP (United Kingdom), CSCS (Switzerland), IFIN-HH (Romania), CBPF (Brazil), and Polish WLCG (Poland). We are indebted to the communities behind the multiple open-source software packages on which we depend. Individual groups or members have received support from ARC and ARDC (Australia); Key Research Program of Frontier Sciences of CAS, CAS PIFI, CAS CCEPP, Fundamental Research Funds for the Central Universities, and Sci. & Tech. Program of Guangzhou (China); Minciencias (Colombia); EPLANET, Marie Skłodowska-Curie Actions, ERC and NextGenerationEU (European Union); A*MIDEX, ANR, IPhU and Labex P2IO, and Région Auvergne-Rhône-Alpes (France); AvH Foundation (Germany); ICSC (Italy); Severo Ochoa and María de Maeztu Units of Excellence, GVA, XuntaGal, GENCAT, InTalent-Inditex and Prog. Atracción Talento CM (Spain); SRC (Sweden); the Leverhulme Trust, the Royal Society and UKRI (United Kingdom).

9 Inclusion of supplementary material

Three types of supplementary material should be distinguished:

- A regular appendix: lengthy equations or long tables are sometimes better put in an appendix in order not to interrupt the main flow of a paper. Appendices will appear in the final paper, on arXiv and on the CDS record and should be considered integral part of a paper, and are thus to be reviewed like the rest of the paper. An example of an LHCb paper with an appendix is Ref. [41].
- Supplementary material for CDS: plots or tables that would make the paper exceed the page limit or are not appropriate to include in the paper itself, but are desirable to be shown in public should be added to the paper drafts in an appendix, and removed from the paper before submitting to arXiv or the journal. See Appendix D

for further instructions. Examples are: comparison plots of the new result with older results, plots that illustrate cross-checks. An example of an LHCb paper with supplementary material for CDS is Ref. [42]. Supplementary material for CDS cannot be referenced in the paper. Supplementary material should be included in the draft paper to be reviewed by the collaboration.

- Supplementary material for the paper. This is usually called "supplemental material", which distinguishes it from supplementary material for CDS only. Most journals allow to submit files along with the paper that will not be part of the text of the article, but will be stored on the journal server. Examples are plain text files with numerical data corresponding to the plots in the paper. The supplemental material should be cited in the paper by including a reference which should say "See supplemental material at [link] for [give brief description of material]." The journal will insert a specific link for [link]. The arXiv version will usually include the supplemental material as part of the paper and so should not contain the words "at [link]". Supplemental material should be included in the draft paper to be reviewed by the collaboration. An example of an LHCb paper with supplemental material is Ref. [43]

Appendices

A Standard References

Below is a list of common references, as well as a list of all LHCb publications. As they are already in prepared bib files, they can be used as simply as `\cite{LHCb-DP-2008-001}` to get the LHCb detector paper. The references are defined in the files `main.bib`, `LHCb-PAPER.bib`, `LHCb-CONF.bib`, `LHCb-DP.bib` `LHCb-TDR.bib` files, with obvious contents. Each of these have their `LHCb-ZZZ-20XX-0YY` number as their cite code. If you believe there is a problem with the formatting or content of one of the entries, then get in contact with the Editorial Board rather than just editing it in your local file, since you are likely to need the latest version just before submitting the article.

Table 2: Standard references.

Description	Ref.	cite code
Lee, Weinberg, Zumino	[35]	`Lee:1967iu`
Cabibbo, Kobayashi, Maskawa	[38]	`Cabibbo:1963yz,*Kobayashi:1973fv`
Gell-Mann, Zweig	[44]	`GellMann:1964nj,*Zweig:352337`
Baryon asymmetry & SM *CP*	[45]	`Gavela:1994dt`
Baryon asymmetry & SM *CP*	[46]	`Gavela:1993ts`
EW Baryogenesis & *CP*	[47]	`Huet:1994jb`
Dalitz Plot[11]	[48]	`Dalitz:1953cp,*Fabri:1954zz`
PDG 2022	[3]	`PDG2022`
PDG 2020	[49]	`PDG2020`

[11] Dalitz invented the method, Fabri added relativistic corrections.

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PDG 2019	[50]	`PDG2019`
PDG 2018	[51]	`PDG2018`
PDG 2016	[52]	`PDG2016`
PDG 2014	[53]	`PDG2014`
HFLAV 2021	[54]	`HFLAV21`
HFLAV 2018	[55]	`HFLAV18`
HFLAV 2016	[56]	`HFLAV16`
HFLAV (pre-2016)	[57]	`Amhis:2014hma`
CKMfitter group	[58]	`CKMfitter2005`
CKMfitter group	[59]	`CKMfitter2015`
UTfit (Standard Model/CKM)	[60]	`UTfit-UT`
UTfit (New Physics)	[61]	`UTfit-NP`
PYTHIA	[17]	`Sjostrand:2007gs,*Sjostrand:2006za`
LHCb PYTHIA tuning	[18]	`LHCb-PROC-2010-056`
EVTGEN	[19]	`Lange:2001uf`
PHOTOS	[20]	`davidson2015photos`
GEANT4	[21]	`Allison:2006ve, *Agostinelli:2002hh`
LHCb simulation	[22]	`LHCb-PROC-2011-006`
RapidSim	[62]	`Cowan:2016tnm`
DIRAC	[63]	`Tsaregorodtsev:2010zz,*BelleDIRAC`
HLT2 topological trigger	[12]	`BBDT`
Topological trigger reoptimization — Run 2	[13]	`LHCb-PROC-2015-018`
Turbo and real-time alignment — Run 2	[14]	`LHCb-PROC-2015-011`
TisTos method	[10]	`LHCb-DP-2012-004`
Allen	[64]	`Aaij:2019zbu`
PIDCalib (for Run 1)	[65]	`LHCb-PUB-2016-021`
Ghost probability	[66]	`DeCian:2255039`
Primary vertex reconstruction	[67]	`Kucharczyk:1756296`
DecayTreeFitter	[68]	`Hulsbergen:2005pu`
SMOG	[69]	`FerroLuzzi:2005em`
Run-2 tagging	[70]	`Fazzini:2018dyq`
OS K, μ, e and VS tagging	[71]	`LHCb-PAPER-2011-027`
OS charm tagging	[72]	`LHCb-PAPER-2015-027`
SS kaon tagging	[73]	`LHCb-PAPER-2015-056`
SS proton and pion tagging	[74]	`LHCb-PAPER-2016-039`
Reommendations for multiple candidates	[75]	`Koppenburg:2017zsh`
See also Table 3 for LHCb performance references.		
sPlot	[76]	`Pivk:2004ty`
sFit	[77]	`Xie:2009rka`
Punzi's optimization	[78]	`Punzi:2003bu`
BDT	[25]	`Breiman`
BDT training	[26]	`AdaBoost`
TMVA[12]	[24]	`Hocker:2007ht,*TMVA4`
RooUnfold	[79]	`Adye:2011gm`

[12] Do not cite this instead of the actual reference for the MVA being used.

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scikit-learn	[80] Scikit-learn-paper
LAURA++	[81] Back:2017zqt
hep_ml	[82] Rogozhnikov:2016bdp
root_numpy	[83] root-numpy
GammaCombo[13]	[86] GammaCombo
TENSORFLOW	[87] tensorflow2015-whitepaper
Crystal Ball function[14]	[88] Skwarnicki:1986xj
Hypatia function	[89] Santos:2013gra
Modified Novosibirsk function	[90] Ikeda:1999aq
Bukin function	[91] Bukin:2007
Wilks' theorem	[92] Wilks:1938dza
CL_s method	[93] CLs
BLUE method	[94] Nisius:2020jmf
Bootstrapping	[95] efron:1979
Blatt–Weisskopf barrier	[96] Blatt:1952ije
f_s/f_d at 7–8 TeV	[97] fsfd
LHC beam energy uncertainty	[98] PhysRevAccelBeams.20.081003
Exotic hadron naming conventrion	[99] LHCb-PUB-2022-013
Measurement of the instrumental asymmetry for $K^-\pi^+$-pairs at LHCb in Run 2	[100] LHCb-PUB-2018-004

Table 3: LHCb detector performance papers.

LHCb-DP number	Title
LHCb-DP-2023-004 [101]	Tracking of charged particles with nanosecond lifetimes at LHCb
LHCb-DP-2023-003 [102]	Momentum scale calibration of the LHCb spectrometer
LHCb-DP-2023-002 [103]	Helium indentification with LHCb
LHCb-DP-2023-001 [104]	Charge-dependent curvature-bias corrections using a pseudomass method
LHCb-DP-2022-002 [29]	The LHCb Upgrade I
LHCb-DP-2021-006 [?]	Identification of charm jets at LHCb
LHCb-DP-2021-005 [?]	TBD
LHCb-DP-2021-004 [?]	TBD
LHCb-DP-2021-003 [?]	TBD
LHCb-DP-2021-002 [105]	Centrality determination in heavy-ion collisions with the LHCb detector
LHCb-DP-2021-001 [?]	TBD
LHCb-DP-2020-003 [106]	TBD
LHCb-DP-2020-002 [107]	TBD
LHCb-DP-2020-001 [108]	TBD

[13] Always cite this along with Ref. [84] (or Ref. [85] if referring to the determination of γ with charm mixing results) as `\cite{GammaCombo,*LHCb-PAPER-2016-032 (*LHCb-PAPER-2021-033)}` (unless LHCb-PAPER-2016-032 (LHCb-PAPER-2021-033) is cited elsewhere).

[14] A valid alternative for most papers where the normalisation is not critical is to use the expression"Gaussian function with a low-mass power-law tail" or "Gaussian function with power-law tails". In that case, no citation is needed

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LHCb-DP-2019-006 [109]	TBD
LHCb-DP-2019-005 [110]	TBD
LHCb-DP-2019-004 [111]	Diphoton discrimination
LHCb-DP-2019-003 [112]	Electron reconstruction efficiency
LHCb-DP-2019-002 [113]	Real-Time analysis
LHCb-DP-2019-001 [114]	Run 2 trigger performance
LHCb-DP-2018-004 [23]	ReDecay
LHCb-DP-2018-003 [115]	Radiation damage in TT
LHCb-DP-2018-002 [116]	VeLo material map using SMOG
LHCb-DP-2018-001 [117]	PIDCalib for Run 2 (use Ref. [65] for Run 1)
LHCb-DP-2017-001 [7]	Performance of the Outer Tracker — Run 2
LHCb-DP-2016-003 [118]	HeRSCheL
LHCb-DP-2016-001 [15]	TESLA project — Run 2
LHCb-DP-2014-002 [4]	LHCb detector performance
LHCb-DP-2014-001 [5]	Performance of the LHCb Vertex Locator
LHCb-DP-2013-003 [6]	Performance of the LHCb Outer Tracker — Run 1
LHCb-DP-2013-002 [119]	Measurement of the track reconstruction efficiency at LHCb
LHCb-DP-2013-001 [120]	Performance of the muon identification at LHCb
LHCb-DP-2012-005 [121]	Radiation damage in the LHCb Vertex Locator
LHCb-DP-2012-004 [10]	The LHCb trigger and its performance in 2011
LHCb-DP-2012-003 [8]	Performance of the LHCb RICH detector at the LHC
LHCb-DP-2012-002 [9]	Performance of the LHCb muon system
LHCb-DP-2012-001 [122]	Radiation hardness of the LHCb Outer Tracker
LHCb-DP-2011-002 [123]	Simulation of machine induced background ...
LHCb-DP-2011-001 [124]	Performance of the LHCb muon system with cosmic rays
LHCb-DP-2010-001 [125]	First spatial alignment of the LHCb VELO ...
LHCb-DP-2008-001 [1]	LHCb detector

Table 4: LHCb TDRs.

LHCb-TDR number	Title
LHCb-TDR-023 [126]	Framework TDR for LHCb Upgrade II
LHCb-TDR-022 [127]	PLUME
LHCb-TDR-021 [128]	Allen
LHCb-TDR-020 [129]	SMOG Upgrade
LHCb-TDR-018 [130]	Upgrade computing model
LHCb-PII-Physics [131]	Phase-II upgrade physics case
LHCb-PII-EoI [132]	Expression of interest for Phase-II upgrade
LHCb-TDR-017 [133]	Upgrade software and computing
LHCb-TDR-016 [33]	Trigger and online upgrade
LHCb-TDR-015 [31]	Tracker upgrade
LHCb-TDR-014 [32]	PID upgrade
LHCb-TDR-013 [30]	VELO upgrade
LHCb-TDR-012 [134]	Framework TDR for the upgrade

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LHCb-TDR-011 [135]	Computing
LHCb-TDR-010 [136]	Trigger
LHCb-TDR-009 [137]	Reoptimized detector
LHCb-TDR-008 [138]	Inner Tracker
LHCb-TDR-007 [139]	Online, DAQ, ECS
LHCb-TDR-006 [140]	Outer Tracker
LHCb-TDR-005 [141]	VELO
LHCb-TDR-004 [142]	Muon system
LHCb-TDR-003 [143]	RICH
LHCb-TDR-002 [144]	Calorimeters
LHCb-TDR-001 [145]	Magnet

Table 5: LHCb-PAPERs (which have their identifier as their cite code). DNE: Does not exist.

LHCb-PAPER-2024-048 [146]	LHCb-PAPER-2024-047 [147]	LHCb-PAPER-2024-046 [148]	LHCb-PAPER-2024-045 [149]	LHCb-PAPER-2024-044 [150]
LHCb-PAPER-2024-043 [151]	LHCb-PAPER-2024-042 [152]	LHCb-PAPER-2024-041 [153]	LHCb-PAPER-2024-040 [154]	LHCb-PAPER-2024-039 [155]
LHCb-PAPER-2024-038 [156]	LHCb-PAPER-2024-037 [157]	LHCb-PAPER-2024-036 [158]	LHCb-PAPER-2024-035 [159]	LHCb-PAPER-2024-034 [160]
LHCb-PAPER-2024-033 [161]	LHCb-PAPER-2024-032 [162]	LHCb-PAPER-2024-031 [163]	LHCb-PAPER-2024-030 [164]	LHCb-PAPER-2024-029 [165]
LHCb-PAPER-2024-028 [166]	LHCb-PAPER-2024-027 [167]	LHCb-PAPER-2024-026 [168]	LHCb-PAPER-2024-025 [169]	LHCb-PAPER-2024-024 [170]
LHCb-PAPER-2024-023 [171]	LHCb-PAPER-2024-022 [172]	LHCb-PAPER-2024-021 [173]	LHCb-PAPER-2024-020 [174]	LHCb-PAPER-2024-019 [175]
LHCb-PAPER-2024-018 [176]	LHCb-PAPER-2024-017 [177]	LHCb-PAPER-2024-016 [178]	LHCb-PAPER-2024-015 [179]	LHCb-PAPER-2024-014 [180]
LHCb-PAPER-2024-013 [181]	LHCb-PAPER-2024-012 [182]	LHCb-PAPER-2024-011 [183]	LHCb-PAPER-2024-010 [184]	LHCb-PAPER-2024-009 [185]
LHCb-PAPER-2024-008 [186]	LHCb-PAPER-2024-007 [187]	LHCb-PAPER-2024-006 [188]	LHCb-PAPER-2024-005 [189]	LHCb-PAPER-2024-004 [190]
LHCb-PAPER-2024-003 [191]	LHCb-PAPER-2024-002 [192]	LHCb-PAPER-2024-001 [193]		
LHCb-PAPER-2023-047 [194]	LHCb-PAPER-2023-046 [195]			
LHCb-PAPER-2023-045 [196]	LHCb-PAPER-2023-044 [197]	LHCb-PAPER-2023-043 [198]	LHCb-PAPER-2023-042 [199]	LHCb-PAPER-2023-041 [200]
LHCb-PAPER-2023-040 [201]	LHCb-PAPER-2023-039 [202]	LHCb-PAPER-2023-038 [203]	LHCb-PAPER-2023-037 [204]	LHCb-PAPER-2023-036 [205]
LHCb-PAPER-2023-035 [206]	LHCb-PAPER-2023-034 [207]	LHCb-PAPER-2023-033 [208]	LHCb-PAPER-2023-032 [209]	LHCb-PAPER-2023-031 [210]
LHCb-PAPER-2023-030 [211]	LHCb-PAPER-2023-029 [212]	LHCb-PAPER-2023-028 [213]	LHCb-PAPER-2023-027 [214]	LHCb-PAPER-2023-026 [215]
LHCb-PAPER-2023-025 [216]	LHCb-PAPER-2023-024 [217]	LHCb-PAPER-2023-023 [218]	LHCb-PAPER-2023-022 [219]	LHCb-PAPER-2023-021 [220]
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LHCb-PAPER-2023-015 [226]	LHCb-PAPER-2023-014 [227]	LHCb-PAPER-2023-013 [228]	LHCb-PAPER-2023-012 [229]	LHCb-PAPER-2023-011 [230]
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LHCb-PAPER-2023-005 [236]	LHCb-PAPER-2023-004 [237]	LHCb-PAPER-2023-003 [238]	LHCb-PAPER-2023-002 [239]	LHCb-PAPER-2023-001 [240]
LHCb-PAPER-2022-060 [241]	LHCb-PAPER-2022-059 [242]	LHCb-PAPER-2022-058 [243]	LHCb-PAPER-2022-057 [244]	LHCb-PAPER-2022-056 [245]
LHCb-PAPER-2022-055 [246]	LHCb-PAPER-2022-054 [247]	LHCb-PAPER-2022-053 [248]	LHCb-PAPER-2022-052 [249]	LHCb-PAPER-2022-051 [250]
LHCb-PAPER-2022-050 [251]	LHCb-PAPER-2022-049 [252]	LHCb-PAPER-2022-048 [253]	LHCb-PAPER-2022-047 [254]	LHCb-PAPER-2022-046 [255]
LHCb-PAPER-2022-045 [256]	LHCb-PAPER-2022-044 [257]	LHCb-PAPER-2022-043 [258]	LHCb-PAPER-2022-042 [259]	LHCb-PAPER-2022-041 [260]
LHCb-PAPER-2022-040 [261]	LHCb-PAPER-2022-039 [262]	LHCb-PAPER-2022-038 [263]	LHCb-PAPER-2022-037 [264]	LHCb-PAPER-2022-036 [265]
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LHCb-PAPER-2022-025 [276]	LHCb-PAPER-2022-024 [277]	LHCb-PAPER-2022-023 [278]	LHCb-PAPER-2022-022 [279]	LHCb-PAPER-2022-021 [280]
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LHCb-PAPER-2022-010 [291]	LHCb-PAPER-2022-009 [292]	LHCb-PAPER-2022-008 [293]	LHCb-PAPER-2022-007 [294]	LHCb-PAPER-2022-006 [295]
LHCb-PAPER-2022-005 [296]	LHCb-PAPER-2022-004 [297]	LHCb-PAPER-2022-003 [298]	LHCb-PAPER-2022-002 [299]	LHCb-PAPER-2022-001 [300]
LHCb-PAPER-2021-053 [301]	LHCb-PAPER-2021-052 [302]	LHCb-PAPER-2021-051 [303]		
LHCb-PAPER-2021-050 [304]	LHCb-PAPER-2021-049 [305]	LHCb-PAPER-2021-048 [306]	LHCb-PAPER-2021-047 [307]	LHCb-PAPER-2021-046 [308]
LHCb-PAPER-2021-045 [309]	LHCb-PAPER-2021-044 [310]	LHCb-PAPER-2021-043 [311]	LHCb-PAPER-2021-042 [312]	LHCb-PAPER-2021-041 [313]
LHCb-PAPER-2021-040 [314]	LHCb-PAPER-2021-039 [315]	LHCb-PAPER-2021-038 [316]	LHCb-PAPER-2021-037 [317]	LHCb-PAPER-2021-036 [318]
LHCb-PAPER-2021-035 [319]	LHCb-PAPER-2021-034 [320]	LHCb-PAPER-2021-033 [85]	LHCb-PAPER-2021-032 [321]	LHCb-PAPER-2021-031 [322]
LHCb-PAPER-2021-030 [323]	LHCb-PAPER-2021-029 [324]	LHCb-PAPER-2021-028 [325]	LHCb-PAPER-2021-027 [326]	LHCb-PAPER-2021-026 [327]
LHCb-PAPER-2021-025 [328]	LHCb-PAPER-2021-024 [329]	LHCb-PAPER-2021-023 [330]	LHCb-PAPER-2021-022 [331]	LHCb-PAPER-2021-021 [332]
LHCb-PAPER-2021-020 [333]	LHCb-PAPER-2021-019 [334]	LHCb-PAPER-2021-018 [335]	LHCb-PAPER-2021-017 [336]	LHCb-PAPER-2021-016 [337]
LHCb-PAPER-2021-015 [338]	LHCb-PAPER-2021-014 [339]	LHCb-PAPER-2021-013 [340]	LHCb-PAPER-2021-012 [341]	LHCb-PAPER-2021-011 [342]
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LHCb-PAPER-2021-005 [348]	LHCb-PAPER-2021-004 [349]	LHCb-PAPER-2021-003 [350]	LHCb-PAPER-2021-002 [351]	LHCb-PAPER-2021-001 [352]
LHCb-PAPER-2020-048 [353]	LHCb-PAPER-2020-047 [354]	LHCb-PAPER-2020-046 [355]		
LHCb-PAPER-2020-045 [356]	LHCb-PAPER-2020-044 [357]	LHCb-PAPER-2020-043 [358]	LHCb-PAPER-2020-042 [359]	LHCb-PAPER-2020-041 [360]
LHCb-PAPER-2020-040 [361]	LHCb-PAPER-2020-039 [362]	LHCb-PAPER-2020-038 [363]	LHCb-PAPER-2020-037 [364]	LHCb-PAPER-2020-036 [365]
LHCb-PAPER-2020-035 [366]	LHCb-PAPER-2020-034 [367]	LHCb-PAPER-2020-033 [368]	LHCb-PAPER-2020-032 [369]	LHCb-PAPER-2020-031 [370]
LHCb-PAPER-2020-030 [371]	LHCb-PAPER-2020-029 [372]	LHCb-PAPER-2020-028 [373]	LHCb-PAPER-2020-027 [374]	LHCb-PAPER-2020-026 [375]
LHCb-PAPER-2020-025 [376]	LHCb-PAPER-2020-024 [377]	LHCb-PAPER-2020-023 [378]	LHCb-PAPER-2020-022 [379]	LHCb-PAPER-2020-021 [380]
LHCb-PAPER-2020-020 [381]	LHCb-PAPER-2020-019 [382]	LHCb-PAPER-2020-018 [383]	LHCb-PAPER-2020-017 [384]	LHCb-PAPER-2020-016 [385]
LHCb-PAPER-2020-015 [386]	LHCb-PAPER-2020-014 [387]	LHCb-PAPER-2020-013 [388]	LHCb-PAPER-2020-012 [389]	LHCb-PAPER-2020-011 [390]
LHCb-PAPER-2020-010 [391]	LHCb-PAPER-2020-009 [392]	LHCb-PAPER-2020-008 [393]	LHCb-PAPER-2020-007 [394]	LHCb-PAPER-2020-006 [395]
LHCb-PAPER-2020-005 [396]	LHCb-PAPER-2020-004 [397]	LHCb-PAPER-2020-003 [398]	LHCb-PAPER-2020-002 [399]	LHCb-PAPER-2020-001 [400]
LHCb-PAPER-2019-046 [401]				
LHCb-PAPER-2019-045 [402]	LHCb-PAPER-2019-044 [403]	LHCb-PAPER-2019-043 [404]	LHCb-PAPER-2019-042 [405]	LHCb-PAPER-2019-041 [406]
LHCb-PAPER-2019-040 [407]	LHCb-PAPER-2019-039 [408]	LHCb-PAPER-2019-038 [409]	LHCb-PAPER-2019-037 [410]	LHCb-PAPER-2019-036 [411]
LHCb-PAPER-2019-035 [412]	LHCb-PAPER-2019-034 [413]	LHCb-PAPER-2019-033 [414]	LHCb-PAPER-2019-032 [415]	LHCb-PAPER-2019-031 [416]
LHCb-PAPER-2019-030 [417]	LHCb-PAPER-2019-029 [418]	LHCb-PAPER-2019-028 [419]	LHCb-PAPER-2019-027 [420]	LHCb-PAPER-2019-026 [421]
LHCb-PAPER-2019-025 [422]	LHCb-PAPER-2019-024 [423]	LHCb-PAPER-2019-023 [424]	LHCb-PAPER-2019-022 [425]	LHCb-PAPER-2019-021 [426]
LHCb-PAPER-2019-020 [427]	LHCb-PAPER-2019-019 [428]	LHCb-PAPER-2019-018 [429]	LHCb-PAPER-2019-017 [430]	LHCb-PAPER-2019-016 [431]
LHCb-PAPER-2019-015 [432]	LHCb-PAPER-2019-014 [433]	LHCb-PAPER-2019-013 [434]	LHCb-PAPER-2019-012 [435]	LHCb-PAPER-2019-011 [436]
LHCb-PAPER-2019-010 [437]	LHCb-PAPER-2019-009 [438]	LHCb-PAPER-2019-008 [439]	LHCb-PAPER-2019-007 [440]	LHCb-PAPER-2019-006 [441]
LHCb-PAPER-2019-005 [442]	LHCb-PAPER-2019-004 [443]	LHCb-PAPER-2019-003 [444]	LHCb-PAPER-2019-002 [445]	LHCb-PAPER-2019-001 [446]

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LHCb-PAPER-2018-051 [447]				
LHCb-PAPER-2018-050 [448]	LHCb-PAPER-2018-049 [449]	LHCb-PAPER-2018-048 [450]	LHCb-PAPER-2018-047 [451]	LHCb-PAPER-2018-046 [452]
LHCb-PAPER-2018-045 [453]	LHCb-PAPER-2018-044 [454]	LHCb-PAPER-2018-043 [455]	LHCb-PAPER-2018-042 [456]	LHCb-PAPER-2018-041 [457]
LHCb-PAPER-2018-040 [458]	LHCb-PAPER-2018-039 [459]	LHCb-PAPER-2018-038 [460]	LHCb-PAPER-2018-037 [461]	LHCb-PAPER-2018-036 [462]
LHCb-PAPER-2018-035 [463]	LHCb-PAPER-2018-034 [464]	LHCb-PAPER-2018-033 [465]	LHCb-PAPER-2018-032 [466]	LHCb-PAPER-2018-031 [467]
LHCb-PAPER-2018-030 [468]	LHCb-PAPER-2018-029 [469]	LHCb-PAPER-2018-028 [470]	LHCb-PAPER-2018-027 [471]	LHCb-PAPER-2018-026 [472]
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LHCb-PAPER-2018-015 [483]	LHCb-PAPER-2018-014 [484]	LHCb-PAPER-2018-013 [485]	LHCb-PAPER-2018-012 [486]	LHCb-PAPER-2018-011 [487]
LHCb-PAPER-2018-010 [488]	LHCb-PAPER-2018-009 [489]	LHCb-PAPER-2018-008 [490]	LHCb-PAPER-2018-007 [491]	LHCb-PAPER-2018-006 [492]
LHCb-PAPER-2018-005 [493]	LHCb-PAPER-2018-004 [494]	LHCb-PAPER-2018-003 [495]	LHCb-PAPER-2018-002 [496]	LHCb-PAPER-2018-001 [497]
LHCb-PAPER-2017-050 [498]	LHCb-PAPER-2017-049 [499]	LHCb-PAPER-2017-048 [500]	LHCb-PAPER-2017-047 [501]	LHCb-PAPER-2017-046 [502]
LHCb-PAPER-2017-045 [503]	LHCb-PAPER-2017-044 [504]	LHCb-PAPER-2017-043 [505]	LHCb-PAPER-2017-042 [506]	LHCb-PAPER-2017-041 [507]
LHCb-PAPER-2017-040 [508]	LHCb-PAPER-2017-039 [509]	LHCb-PAPER-2017-038 [36]	LHCb-PAPER-2017-037 [510]	LHCb-PAPER-2017-036 [511]
LHCb-PAPER-2017-035 [512]	LHCb-PAPER-2017-034 [513]	LHCb-PAPER-2017-033 [514]	LHCb-PAPER-2017-032 [515]	LHCb-PAPER-2017-031 [516]
LHCb-PAPER-2017-030 [517]	LHCb-PAPER-2017-029 [518]	LHCb-PAPER-2017-028 [519]	LHCb-PAPER-2017-027 [520]	LHCb-PAPER-2017-026 [521]
LHCb-PAPER-2017-025 [522]	LHCb-PAPER-2017-024 [523]	LHCb-PAPER-2017-023 [524]	LHCb-PAPER-2017-022 [525]	LHCb-PAPER-2017-021 [526]
LHCb-PAPER-2017-020 [527]	LHCb-PAPER-2017-019 [528]	LHCb-PAPER-2017-018 [529]	LHCb-PAPER-2017-017 [530]	LHCb-PAPER-2017-016 [531]
LHCb-PAPER-2017-015 [532]	LHCb-PAPER-2017-014 [533]	LHCb-PAPER-2017-013 [534]	LHCb-PAPER-2017-012 [535]	LHCb-PAPER-2017-011 [536]
LHCb-PAPER-2017-010 [537]	LHCb-PAPER-2017-009 [538]	LHCb-PAPER-2017-008 [539]	LHCb-PAPER-2017-007 [540]	LHCb-PAPER-2017-006 [541]
LHCb-PAPER-2017-005 [542]	LHCb-PAPER-2017-004 [543]	LHCb-PAPER-2017-003 [544]	LHCb-PAPER-2017-002 [545]	LHCb-PAPER-2017-001 [546]
LHCb-PAPER-2016-065 [547]	LHCb-PAPER-2016-064 [548]	LHCb-PAPER-2016-063 [549]	LHCb-PAPER-2016-062 [550]	LHCb-PAPER-2016-061 [551]
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LHCb-PAPER-2016-055 [557]	LHCb-PAPER-2016-054 [558]	LHCb-PAPER-2016-053 [559]	LHCb-PAPER-2016-052 [560]	LHCb-PAPER-2016-051 [561]
LHCb-PAPER-2016-050 [562]	LHCb-PAPER-2016-049 [563]	LHCb-PAPER-2016-048 [564]	LHCb-PAPER-2016-047 [565]	LHCb-PAPER-2016-046 [566]
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LHCb-PAPER-2016-040 [572]	LHCb-PAPER-2016-039 [74]	LHCb-PAPER-2016-038 [573]	LHCb-PAPER-2016-037 [574]	LHCb-PAPER-2016-036 [575]
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LHCb-PAPER-2016-025 [585]	LHCb-PAPER-2016-024 [586]	LHCb-PAPER-2016-023 [587]	LHCb-PAPER-2016-022 [588]	LHCb-PAPER-2016-021 [589]
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LHCb-PAPER-2016-010 [600]	LHCb-PAPER-2016-009 [601]	LHCb-PAPER-2016-008 [602]	LHCb-PAPER-2016-007 [603]	LHCb-PAPER-2016-006 [604]
LHCb-PAPER-2016-005 [605]	LHCb-PAPER-2016-004 [606]	LHCb-PAPER-2016-003 [607]	LHCb-PAPER-2016-002 [608]	LHCb-PAPER-2016-001 [609]
LHCb-PAPER-2015-060 [610]	LHCb-PAPER-2015-059 [611]	LHCb-PAPER-2015-058 [612]	LHCb-PAPER-2015-057 [613]	LHCb-PAPER-2015-056 [73]
LHCb-PAPER-2015-055 [614]	LHCb-PAPER-2015-054 [615]	LHCb-PAPER-2015-053 [616]	LHCb-PAPER-2015-052 [617]	LHCb-PAPER-2015-051 [618]
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[15]LHCb-PAPER-2011-039 does not exist.

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Table 6: LHCb-CONFs (which have their identifier as their cite code). Most CONF notes have been superseded by a paper and are thus retired. This is indicated in the bibtex entry. Do not cite retired CONF notes. DNE: Does not exist.

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Earlier documents in LHCb-CONF series are actually proceedings.				

B Standard symbols

As explained in Sect. 4 this appendix contains standard typesetting of symbols, particle names, units etc. in LHCb documents.

In the file `lhcb-symbols-def.tex`, which is included, a large number of symbols is defined. While they can lead to quicker typing, the main reason is to ensure a uniform notation within a document and between different LHCb documents. If a symbol like `\CP` to typeset *CP* violation is available for a unit, particle name, process or whatever, it should be used. If you do not agree with the notation you should ask to get the definition in `lhcb-symbols-def.tex` changed rather than just ignoring it.

All the main particles have been given symbols. The B mesons are thus named B^+, B^0, B^0_s, and B^+_c. There is no need to go into math mode to use particle names, thus

[16] If you cite the gamma combination, always also cite the latest gamma paper as `\cite{LHCb-PAPER-2013-020,*LHCb-CONF-2018-002}` (unless you cite LHCb-PAPER-2013-020 separately too).

saving the typing of many $ signs. By default particle names are typeset in italic type to agree with the PDG preference. To get roman particle names you can just change `\setboolean{uprightparticles}{false}` to `true` at the top of this template.

There is a large number of units typeset that ensures the correct use of fonts, capitals and spacing. As an example we have $m_{B^0_s} = 5366.3 \pm 0.6\,\mathrm{MeV}/c^2$. Note that μm is typeset with an upright μ, even if the particle names have slanted Greek letters.

A set of useful symbols are defined for working groups. More of these symbols can be included later. As an example in the Rare Decay group we have several different analyses looking for a measurement of $\mathcal{C}_7^{\prime(\mathrm{eff})}$ and $\mathcal{O}_7^{\prime}$.

C List of all symbols

C.1 Experiments

`\lhcb`	LHCb	`\atlas`	ATLAS	`\cms`	CMS
`\alice`	ALICE	`\babar`	BaBar	`\belle`	Belle
`\belletwo`	Belle II	`\besiii`	BESIII	`\cleo`	CLEO
`\cdf`	CDF	`\dzero`	D0	`\aleph`	ALEPH
`\delphi`	DELPHI	`\opal`	OPAL	`\lthree`	L3
`\sld`	SLD	`\cern`	CERN	`\lhc`	LHC
`\lep`	LEP	`\tevatron`	Tevatron	`\bfactories`	*B* Factories
`\bfactory`	*B* Factory	`\upgradeone`	Upgrade I	`\upgradetwo`	Upgrade II

C.1.1 LHCb sub-detectors and sub-systems

`\velo`	VELO	`\rich`	RICH	`\richone`	RICH1
`\richtwo`	RICH2	`\ttracker`	TT	`\intr`	IT
`\st`	ST	`\ot`	OT	`\herschel`	HeRSCheL
`\spd`	SPD	`\presh`	PS	`\ecal`	ECAL
`\hcal`	HCAL	`\MagUp`	*MagUp*	`\MagDown`	*MagDown*
`\ode`	ODE	`\daq`	DAQ	`\tfc`	TFC
`\ecs`	ECS	`\lone`	L0	`\hlt`	HLT
`\hltone`	HLT1	`\hlttwo`	HLT2		

687 ## C.2 Particles

688 ### C.2.1 Leptons

	\electron	e	\en	e^-	\ep	e^+
	\epm	$e^\pm$	\emp	$e^\mp$	\epem	e^+e^-
	\muon	μ	\mup	μ^+	\mun	μ^-
	\mupm	$\mu^\pm$	\mump	$\mu^\mp$	\mumu	$\mu^+\mu^-$
	\tauon	τ	\taup	τ^+	\taum	τ^-
	\taupm	$\tau^\pm$	\taump	$\tau^\mp$	\tautau	$\tau^+\tau^-$
689	\lepton	ℓ	\ellm	ℓ^-	\ellp	ℓ^+
	\ellpm	$\ell^\pm$	\ellmp	$\ell^\mp$	\ellell	$\ell^+\ell^-$
	\neu	ν	\neub	$\overline{\nu}$	\neue	ν_e
	\neueb	$\overline{\nu}_e$	\neum	ν_μ	\neumb	$\overline{\nu}_\mu$
	\neut	ν_τ	\neutb	$\overline{\nu}_\tau$	\neul	ν_ℓ
	\neulb	$\overline{\nu}_\ell$				

690 ### C.2.2 Gauge bosons and scalars

	\g	γ	\H	H^0	\Hp	H^+
	\Hm	H^-	\Hpm	$H^\pm$	\W	W
691	\Wp	W^+	\Wm	W^-	\Wpm	$W^\pm$
	\Z	Z				

692 ### C.2.3 Quarks

	\quark	q	\quarkbar	$\overline{q}$	\qqbar	$q\overline{q}$
	\uquark	u	\uquarkbar	$\overline{u}$	\uubar	$u\overline{u}$
	\dquark	d	\dquarkbar	$\overline{d}$	\ddbar	$d\overline{d}$
693	\squark	s	\squarkbar	$\overline{s}$	\ssbar	$s\overline{s}$
	\cquark	c	\cquarkbar	$\overline{c}$	\ccbar	$c\overline{c}$
	\bquark	b	\bquarkbar	$\overline{b}$	\bbbar	$b\overline{b}$
	\tquark	t	\tquarkbar	$\overline{t}$	\ttbar	$t\overline{t}$

694 ### C.2.4 Light mesons

	\hadron	h	\pion	π	\piz	π^0
	\pip	π^+	\pim	π^-	\pipm	$\pi^\pm$
	\pimp	$\pi^\mp$	\rhomeson	ρ	\rhoz	ρ^0
	\rhop	ρ^+	\rhom	ρ^-	\rhopm	$\rho^\pm$
	\rhomp	$\rho^\mp$	\kaon	K	\Kbar	$\overline{K}$
	\Kb	$\overline{K}$	\KorKbar	$\overset{(-)}{K}$	\Kz	K^0
695	\Kzb	$\overline{K}^0$	\Kp	K^+	\Km	K^-
	\Kpm	$K^\pm$	\Kmp	$K^\mp$	\KS	K^0_S
	\Vzero	V^0	\KL	K^0_L	\Kstarz	K^{*0}
	\Kstarzb	$\overline{K}^{*0}$	\Kstar	K^*	\Kstarb	$\overline{K}^*$
	\Kstarp	K^{*+}	\Kstarm	K^{*-}	\Kstarpm	$K^{*\pm}$
	\Kstarmp	$K^{*\mp}$	\KorKbarz	$\overset{(-)}{K}{}^0$	\etaz	η
	\etapr	η'	\phiz	ϕ	\omegaz	ω

C.2.5 Charmed mesons

\Dbar	$\overline{D}$	\D	D	\Db	$\overline{D}$
\DorDbar	$\overset{(-)}{D}$	\Dz	D^0	\Dzb	$\overline{D}^0$
\Dp	D^+	\Dm	D^-	\Dpm	$D^\pm$
\Dmp	$D^\mp$	\DpDm	D^+D^-	\Dstar	D^*
\Dstarb	$\overline{D}^*$	\Dstarz	D^{*0}	\Dstarzb	$\overline{D}^{*0}$
\theDstarz	$D^*(2007)^0$	\theDstarzb	$\overline{D}^*(2007)^0$	\Dstarp	D^{*+}
\Dstarm	D^{*-}	\Dstarpm	$D^{*\pm}$	\Dstarmp	$D^{*\mp}$
\theDstarp	$D^*(2010)^+$	\theDstarm	$D^*(2010)^-$	\theDstarpm	$D^*(2010)^\pm$
\theDstarmp	$D^*(2010)^\mp$	\Ds	D_s^+	\Dsp	D_s^+
\Dsm	D_s^-	\Dspm	$D_s^\pm$	\Dsmp	$D_s^\mp$
\Dss	D_s^{*+}	\Dssp	D_s^{*+}	\Dssm	D_s^{*-}
\Dsspm	$D_s^{*\pm}$	\Dssmp	$D_s^{*\mp}$	\DporDsp	$D_{(s)}^+$
\DmorDsm	$D_{(s)}^-$	\DpmorDspm	$D_{(s)}^\pm$		

C.2.6 Beauty mesons

\B	B	\Bbar	$\overline{B}$	\Bb	$\overline{B}$
\BorBbar	$\overset{(-)}{B}$	\Bz	B^0	\Bzb	$\overline{B}^0$
\Bd	B^0	\Bdb	$\overline{B}^0$	\BdorBdbar	$\overset{(-)}{B^0}$
\Bu	B^+	\Bub	B^-	\Bp	B^+
\Bm	B^-	\Bpm	$B^\pm$	\Bmp	$B^\mp$
\Bs	B_s^0	\Bsb	$\overline{B}_s^0$	\BsorBsbar	$\overset{(-)}{B_s^0}$
\Bc	B_c^+	\Bcp	B_c^+	\Bcm	B_c^-
\Bcpm	$B_c^\pm$	\Bds	$B_{(s)}^0$	\Bdsb	$\overline{B}_{(s)}^0$
\BdorBs	$B_{(s)}^0$	\BdorBsbar	$\overline{B}_{(s)}^0$		

C.2.7 Onia

\jpsi	J/ψ	\psitwos	$\psi(2S)$	\psiprpr	$\psi(3770)$
\etac	η_c	\psires	ψ	\chic	χ_c
\chiczero	χ_{c0}	\chicone	χ_{c1}	\chictwo	χ_{c2}
\chicJ	χ_{cJ}	\Upsilonres	Υ	\OneS	$\Upsilon(1S)$
\TwoS	$\Upsilon(2S)$	\ThreeS	$\Upsilon(3S)$	\FourS	$\Upsilon(4S)$
\FiveS	$\Upsilon(5S)$	\chib	χ_b	\chibzero	χ_{b0}
\chibone	χ_{b1}	\chibtwo	χ_{b2}	\chibJ	χ_{bJ}
\theX	$\chi_{c1}(3872)$				

702 ### C.2.8 Light Baryons

	\proton	p	\antiproton	$\overline{p}$	\neutron	n
	\antineutron	$\overline{n}$	\Deltares	$\mathit{\Delta}$	\Deltaresbar	$\overline{\mathit{\Delta}}$
	\Lz	$\mathit{\Lambda}$	\Lbar	$\overline{\mathit{\Lambda}}$	\LorLbar	$\overset{(-)}{\mathit{\Lambda}}$
	\Lambdares	$\mathit{\Lambda}$	\Lambdaresbar	$\overline{\mathit{\Lambda}}$	\Sigmares	$\mathit{\Sigma}$
	\Sigmaz	$\mathit{\Sigma}^0$	\Sigmap	$\mathit{\Sigma}^+$	\Sigmam	$\mathit{\Sigma}^-$
703	\Sigmaresbar	$\overline{\mathit{\Sigma}}$	\Sigmabarz	$\overline{\mathit{\Sigma}}^0$	\Sigmabarp	$\overline{\mathit{\Sigma}}^+$
	\Sigmabarm	$\overline{\mathit{\Sigma}}^-$	\Xires	$\mathit{\Xi}$	\Xiz	$\mathit{\Xi}^0$
	\Xim	$\mathit{\Xi}^-$	\Xiresbar	$\overline{\mathit{\Xi}}$	\Xibarz	$\overline{\mathit{\Xi}}^0$
	\Xibarp	$\overline{\mathit{\Xi}}^+$	\Omegares	$\mathit{\Omega}$	\Omegaresbar	$\overline{\mathit{\Omega}}$
	\Omegam	$\mathit{\Omega}^-$	\Omegabarp	$\overline{\mathit{\Omega}}^+$		

704 ### C.2.9 Charmed Baryons

	\Lc	$\mathit{\Lambda}_c^+$	\Lcbar	$\overline{\mathit{\Lambda}}_c^-$	\Sigmac	$\mathit{\Sigma}_c$
	\Sigmacp	$\mathit{\Sigma}_c^+$	\Sigmacz	$\mathit{\Sigma}_c^0$	\Sigmacpp	$\mathit{\Sigma}_c^{++}$
	\Sigmacbar	$\overline{\mathit{\Sigma}}_c$	\Sigmacbarp	$\overline{\mathit{\Sigma}}_c^{--}$	\Sigmacbarz	$\overline{\mathit{\Sigma}}_c^0$
	\Sigmacbarm	$\overline{\mathit{\Sigma}}_c^-$	\Xic	$\mathit{\Xi}_c$	\Xicz	$\mathit{\Xi}_c^0$
	\Xicp	$\mathit{\Xi}_c^+$	\Xicbar	$\overline{\mathit{\Xi}}_c$	\Xicbarz	$\overline{\mathit{\Xi}}_c^0$
705	\Xicbarm	$\overline{\mathit{\Xi}}_c^-$	\Omegac	$\mathit{\Omega}_c^0$	\Omegacbar	$\overline{\mathit{\Omega}}_c^0$
	\Xicc	$\mathit{\Xi}_{cc}$	\Xiccbar	$\overline{\mathit{\Xi}}_{cc}$	\Xiccp	$\mathit{\Xi}_{cc}^+$
	\Xiccpp	$\mathit{\Xi}_{cc}^{++}$	\Xiccbarm	$\overline{\mathit{\Xi}}_{cc}^-$	\Xiccbarmm	$\overline{\mathit{\Xi}}_{cc}^{--}$
	\Omegacc	$\mathit{\Omega}_{cc}^+$	\Omegaccbar	$\overline{\mathit{\Omega}}_{cc}^-$	\Omegaccc	$\mathit{\Omega}_{ccc}^{++}$
	\Omegacccbar	$\overline{\mathit{\Omega}}_{ccc}^{--}$				

706 ### C.2.10 Beauty Baryons

	\Lb	$\mathit{\Lambda}_b^0$	\Lbbar	$\overline{\mathit{\Lambda}}_b^0$	\Sigmab	$\mathit{\Sigma}_b$
	\Sigmabp	$\mathit{\Sigma}_b^+$	\Sigmabz	$\mathit{\Sigma}_b^0$	\Sigmabm	$\mathit{\Sigma}_b^-$
	\Sigmabpm	$\mathit{\Sigma}_b^{\pm}$	\Sigmabbar	$\overline{\mathit{\Sigma}}_b$	\Sigmabbarp	$\overline{\mathit{\Sigma}}_b^+$
707	\Sigmabbarz	$\overline{\mathit{\Sigma}}_b^0$	\Sigmabbarm	$\overline{\mathit{\Sigma}}_b^-$	\Sigmabbarpm	$\overline{\mathit{\Sigma}}_b^-$
	\Xib	$\mathit{\Xi}_b$	\Xibz	$\mathit{\Xi}_b^0$	\Xibm	$\mathit{\Xi}_b^-$
	\Xibbar	$\overline{\mathit{\Xi}}_b$	\Xibbarz	$\overline{\mathit{\Xi}}_b^0$	\Xibbarp	$\overline{\mathit{\Xi}}_b^+$
	\Omegab	$\mathit{\Omega}_b^-$	\Omegabbar	$\overline{\mathit{\Omega}}_b^+$		

708 ## C.3 Physics symbols

709 ### C.3.1 Decays

710	\BF	$\mathcal{B}$	\BR	$\mathcal{B}$	\BRvis	$\mathcal{B}_{\text{vis}}$
	\ra	$\rightarrow$	\to	$\rightarrow$		

711 ### C.3.2 Lifetimes

	\tauBs	$\tau_{B_s^0}$	\tauBd	τ_{B^0}	\tauBz	τ_{B^0}
712	\tauBu	τ_{B^+}	\tauDp	τ_{D^+}	\tauDz	τ_{D^0}
	\tauL	τ_{L}	\tauH	τ_{H}		

C.3.3 Masses

`\mBd`	m_{B^0}	`\mBp`	m_{B^+}	`\mBs`	$m_{B^0_s}$
`\mBc`	$m_{B_c^+}$	`\mLb`	$m_{\Lambda_b^0}$		

C.3.4 EW theory, groups

`\grpsuthree`	$\mathrm{SU}(3)$	`\grpsutw`	$\mathrm{SU}(2)$	`\grpuone`	$\mathrm{U}(1)$
`\ssqtw`	$\sin^2\theta_{\mathrm{W}}$	`\csqtw`	$\cos^2\theta_{\mathrm{W}}$	`\stw`	$\sin\theta_{\mathrm{W}}$
`\ctw`	$\cos\theta_{\mathrm{W}}$	`\ssqtwef`	$\sin^2\theta_{\mathrm{W}}^{\mathrm{eff}}$	`\csqtwef`	$\cos^2\theta_{\mathrm{W}}^{\mathrm{eff}}$
`\stwef`	$\sin\theta_{\mathrm{W}}^{\mathrm{eff}}$	`\ctwef`	$\cos\theta_{\mathrm{W}}^{\mathrm{eff}}$	`\gv`	g_{V}
`\ga`	g_{A}	`\order`	$\mathcal{O}$	`\ordalph`	$\mathcal{O}(\alpha)$
`\ordalsq`	$\mathcal{O}(\alpha^2)$	`\ordalcb`	$\mathcal{O}(\alpha^3)$		

C.3.5 QCD parameters

`\as`	α_s	`\MSb`	$\overline{\mathrm{MS}}$	`\lqcd`	Λ_{QCD}
`\qsq`	q^2				

C.3.6 CKM, *CP* violation

`\eps`	ε	`\epsK`	ε_K	`\epsB`	ε_B
`\epsp`	ε'_K	`\CP`	CP	`\CPT`	CPT
`\T`	T	`\rhobar`	$\overline{\rho}$	`\etabar`	$\overline{\eta}$
`\Vud`	V_{ud}	`\Vcd`	V_{cd}	`\Vtd`	V_{td}
`\Vus`	V_{us}	`\Vcs`	V_{cs}	`\Vts`	V_{ts}
`\Vub`	V_{ub}	`\Vcb`	V_{cb}	`\Vtb`	V_{tb}
`\Vuds`	V_{ud}^*	`\Vcds`	V_{cd}^*	`\Vtds`	V_{td}^*
`\Vuss`	V_{us}^*	`\Vcss`	V_{cs}^*	`\Vtss`	V_{ts}^*
`\Vubs`	V_{ub}^*	`\Vcbs`	V_{cb}^*	`\Vtbs`	V_{tb}^*

C.3.7 Oscillations

`\dm`	Δm	`\dms`	Δm_s	`\dmd`	Δm_d
`\DG`	$\Delta\Gamma$	`\DGs`	$\Delta\Gamma_s$	`\DGd`	$\Delta\Gamma_d$
`\Gs`	Γ_s	`\Gd`	Γ_d	`\MBq`	M_{B_q}
`\DGq`	$\Delta\Gamma_q$	`\Gq`	Γ_q	`\dmq`	Δm_q
`\GL`	Γ_{L}	`\GH`	Γ_{H}	`\DGsGs`	$\Delta\Gamma_s/\Gamma_s$
`\Delm`	Δm	`\ACP`	$\mathcal{A}^{CP}$	`\Adir`	$\mathcal{A}^{\mathrm{dir}}$
`\Amix`	$\mathcal{A}^{\mathrm{mix}}$	`\ADelta`	$\mathcal{A}^{\Delta}$	`\phid`	ϕ_d
`\sinphid`	$\sin\!\phi_d$	`\phis`	ϕ_s	`\betas`	β_s
`\sbetas`	$\sigma(\beta_s)$	`\stbetas`	$\sigma(2\beta_s)$	`\stphis`	$\sigma(\phi_s)$
`\sinphis`	$\sin\!\phi_s$				

C.3.8 Tagging

\edet	$\varepsilon_{\mathrm{det}}$	\erec	$\varepsilon_{\mathrm{rec/det}}$	\esel	$\varepsilon_{\mathrm{sel/rec}}$
\etrg	$\varepsilon_{\mathrm{trg/sel}}$	\etot	$\varepsilon_{\mathrm{tot}}$	\mistag	ω
\wcomb	ω^{comb}	\etag	$\varepsilon_{\mathrm{tag}}$	\etagcomb	$\varepsilon_{\mathrm{tag}}^{\mathrm{comb}}$
\effeff	$\varepsilon_{\mathrm{eff}}$	\effeffcomb	$\varepsilon_{\mathrm{eff}}^{\mathrm{comb}}$	\efftag	$\varepsilon_{\mathrm{tag}}(1-2\omega)^2$
\effD	$\varepsilon_{\mathrm{tag}}D^2$	\etagprompt	$\varepsilon_{\mathrm{tag}}^{\mathrm{Pr}}$	\etagLL	$\varepsilon_{\mathrm{tag}}^{\mathrm{LL}}$

C.3.9 Key decay channels

\BdToKstmm	$B^0\to K^{*0}\mu^+\mu^-$	\BdbToKstmm	$\overline{B}^0\to \overline{K}^{*0}\mu^+\mu^-$	\BsToJPsiPhi	$B_s^0\to J/\psi\phi$
\BdToJPsiKst	$B^0\to J/\psi K^{*0}$	\BdbToJPsiKst	$\overline{B}^0\to J/\psi\overline{K}^{*0}$	\BsPhiGam	$B_s^0\to\phi\gamma$
\BdKstGam	$B^0\to K^{*0}\gamma$	\BTohh	$B\to h^+h'^-$	\BdTopipi	$B^0\to\pi^+\pi^-$
\BdToKpi	$B^0\to K^+\pi^-$	\BsToKK	$B_s^0\to K^+K^-$	\BsTopiK	$B_s^0\to\pi^+K^-$
\Cpipi	$C_{\pi^+\pi^-}$	\Spipi	$S_{\pi^+\pi^-}$	\CKK	$C_{K^+K^-}$
\SKK	$S_{K^+K^-}$	\ADGKK	$A^{\Delta\Gamma}_{K^+K^-}$		

C.3.10 Rare decays

\BdKstee	$B^0\to K^{*0}e^+e^-$	\BdbKstee	$\overline{B}^0\to\overline{K}^{*0}e^+e^-$	\bsll	$b\to s\ell^+\ell^-$
\AFB	A_{FB}	\FL	F_{L}	\AT#1 \AT2	A_{T}^2
\btosgam	$b\to s\gamma$	\btodgam	$b\to d\gamma$	\Bsmm	$B_s^0\to\mu^+\mu^-$
\Bdmm	$B^0\to\mu^+\mu^-$	\Bsee	$B_s^0\to e^+e^-$	\Bdee	$B^0\to e^+e^-$
\ctl	$\cos\theta_\ell$	\ctk	$\cos\theta_K$		

C.3.11 Wilson coefficients and operators

\C#1 \C9	$\mathcal{C}_9$	\Cp#1 \Cp7	$\mathcal{C}_7'$	\Ceff#1 \Ceff9	$\mathcal{C}_9^{(\mathrm{eff})}$
\Cpeff#1 \Cpeff7	$\mathcal{C}_7^{\prime(\mathrm{eff})}$	\Ope#1 \Ope2	$\mathcal{O}_2$	\Opep#1 \Opep7	$\mathcal{O}_7'$

C.3.12 Charm

\xprime	x'	\yprime	y'	\ycp	y_{CP}
\agamma	A_Γ	\dkpicf	$D^0\to K^-\pi^+$		

C.3.13 QM

\bra[1] \bra{a}	$\langle a\vert$	\ket[1] \ket{b}	$\vert b\rangle$	\braket[2] \braket{a}{b}	$\langle a\vert b\rangle$

C.3.14 Units (these macros add a small space in front)

C.3.15 Energy and momentum

\tev	TeV	\gev	GeV	\mev	MeV
\kev	keV	\ev	eV	\gevgev	GeV^2
\mevc	MeV/c	\gevc	GeV/c	\mevcc	MeV/c^2
\gevcc	GeV/c^2	\gevgevcc	GeV^2/c^2	\gevgevcccc	GeV^2/c^4

738 C.3.16 Distance and area (these macros add a small space)

739

\km	km	\m	m	\ma	m^2
\cm	cm	\cma	cm^2	\mm	mm
\mma	mm^2	\mum	µm	\muma	$\mu\mathrm{m}^2$
\nm	nm	\fm	fm	\barn	b
\mbarn	mb	\mub	µb	\nb	nb
\invnb	nb^{-1}	\pb	pb	\invpb	pb^{-1}
\fb	fb	\invfb	fb^{-1}	\ab	ab
\invab	ab^{-1}				

740 C.3.17 Time

741

\sec	s	\ms	ms	\mus	µs
\ns	ns	\ps	ps	\fs	fs
\mhz	MHz	\khz	kHz	\hz	Hz
\invps	ps^{-1}	\invns	ns^{-1}	\yr	yr
\hr	hr				

742 C.3.18 Temperature

743

\degc	°C	\degk	K

744 C.3.19 Material lengths, radiation

745

\Xrad	X_0	\NIL	λ_{int}	\mip	MIP
\neutroneq	n_{eq}	\neqcmcm	$n_{\mathrm{eq}}/\mathrm{cm}^2$	\kRad	kRad
\MRad	MRad	\ci	Ci	\mci	mCi

746 C.3.20 Uncertainties

747

\sx	σ_x	\sy	σ_y	\sz	σ_z
\stat	(stat)	\syst	(syst)	\lumi	(lumi)

748 C.3.21 Maths

749

\order	$\mathcal{O}$	\chisq	χ^2	\chisqndf	χ^2/ndf
\chisqip	χ^2_{IP}	\chisqfd	χ^2_{FD}	\chisqvs	χ^2_{VS}
\chisqvtx	χ^2_{vtx}	\chisqvtxndf	$\chi^2_{\mathrm{vtx}}/\mathrm{ndf}$	\deriv	d
\gsim	$\gtrsim$	\lsim	$\lesssim$	\mean[1] \mean{x}	$\langle x\rangle$
\abs[1] \abs{x}	$\|x\|$	\Real	$\mathcal{R}e$	\Imag	$\mathcal{I}m$
\PDF	PDF	\sPlot	*sPlot*	\sFit	*sFit*

750 C.4 Kinematics

751 C.4.1 Energy, Momenta

752

\Ebeam	E_{BEAM}	\sqs	$\sqrt{s}$	\sqsnn	$\sqrt{s_{\mathrm{NN}}}$
\pt	p_{T}	\ptsq	p_{T}^2	\ptot	p
\et	E_{T}	\mt	M_{T}	\dpp	$\Delta p/p$
\msq	m^2	\dedx	$\mathrm{d}E/\mathrm{d}x$		

C.4.2 PID

\dllkpi	$\mathrm{DLL}_{K\pi}$	\dllppi	$\mathrm{DLL}_{p\pi}$	\dllepi	$\mathrm{DLL}_{e\pi}$
\dllmupi	$\mathrm{DLL}_{\mu\pi}$				

C.4.3 Geometry

\degrees	$^{\circ}$	\murad	μrad	\mrad	mrad
\rad	rad				

C.4.4 Accelerator

\betastar	β^*	\lum	$\mathcal{L}$	\intlum[1] \intlum{2 fb^{-1} }	$\int\mathcal{L} = 2\ \mathrm{fb}^{-1}$

C.5 Software

C.5.1 Programs

\bcvegpy	BCVEGPY	\boole	BOOLE	\brunel	BRUNEL
\davinci	DAVINCI	\dirac	DIRAC	\evtgen	EVTGEN
\fewz	FEWZ	\fluka	FLUKA	\ganga	GANGA
\gaudi	GAUDI	\gauss	GAUSS	\geant	GEANT4
\lamarr	LAMARR	\hepmc	HEPMC	\herwig	HERWIG
\moore	MOORE	\neurobayes	NEUROBAYES	\photos	PHOTOS
\powheg	POWHEG	\pythia	PYTHIA	\resbos	RESBOS
\roofit	ROOFIT	\root	ROOT	\spice	SPICE
\tensorflow	TENSORFLOW	\urania	URANIA		

C.5.2 Languages

\cpp	C++	\ruby	RUBY	\fortran	FORTRAN
\svn	SVN	\git	GIT	\latex	LaTeX

C.5.3 Data processing

\kbit	kbit	\kbps	kbit/s	\kbytes	kB
\kbyps	kB/s	\mbit	Mbit	\mbps	Mbit/s
\mbytes	MB	\mbyps	MB/s	\gbit	Gbit
\gbps	Gbit/s	\gbytes	GB	\gbyps	GB/s
\tbit	Tbit	\tbps	Tbit/s	\tbytes	TB
\tbyps	TB/s	\dst	DST		

C.6 Detector related

C.6.1 Detector technologies

\nonn	n^{+}-on-n	\ponn	p^{+}-on-n	\nonp	n^{+}-on-p
\cvd	CVD	\mwpc	MWPC	\gem	GEM

C.6.2 Detector components, electronics

`\tell1`	TELL1	`\ukl1`	UKL1	`\beetle`	Beetle
`\otis`	OTIS	`\croc`	CROC	`\carioca`	CARIOCA
`\dialog`	DIALOG	`\sync`	SYNC	`\cardiac`	CARDIAC
`\gol`	GOL	`\vcsel`	VCSEL	`\ttc`	TTC
`\ttcrx`	TTCrx	`\hpd`	HPD	`\pmt`	PMT
`\specs`	SPECS	`\elmb`	ELMB	`\fpga`	FPGA
`\plc`	PLC	`\rasnik`	RASNIK	`\elmb`	ELMB
`\can`	CAN	`\lvds`	LVDS	`\ntc`	NTC
`\adc`	ADC	`\led`	LED	`\ccd`	CCD
`\hv`	HV	`\lv`	LV	`\pvss`	PVSS
`\cmos`	CMOS	`\fifo`	FIFO	`\ccpc`	CCPC

C.6.3 Chemical symbols

`\cfourften`	C_4F_{10}	`\cffour`	CF_4	`\cotwo`	CO_2
`\csixffouteen`	C_6F_{14}	`\mgftwo`	MgF_2	`\siotwo`	SiO_2

C.6.4 Special Text

`\eg`	*e.g.*	`\ie`	*i.e.*	`\etal`	*et al.*
`\etc`	*etc.*	`\cf`	*cf.*	`\ffp`	*ff.*
`\vs`	*vs.*				

C.6.5 Helpful to align numbers in tables

`\phz`

D Supplementary material for LHCb-PAPER-20XX-YYY

This appendix contains supplementary material that will be posted on the public CDS record but will not appear in the paper.

Please leave the above sentence in your draft for first and second circulation and replace what follows by your actual supplementary material. For more information about other types of supplementary material, see Section 9. Plots and tables that follow should be well described, either with captions or with additional explanatory text.

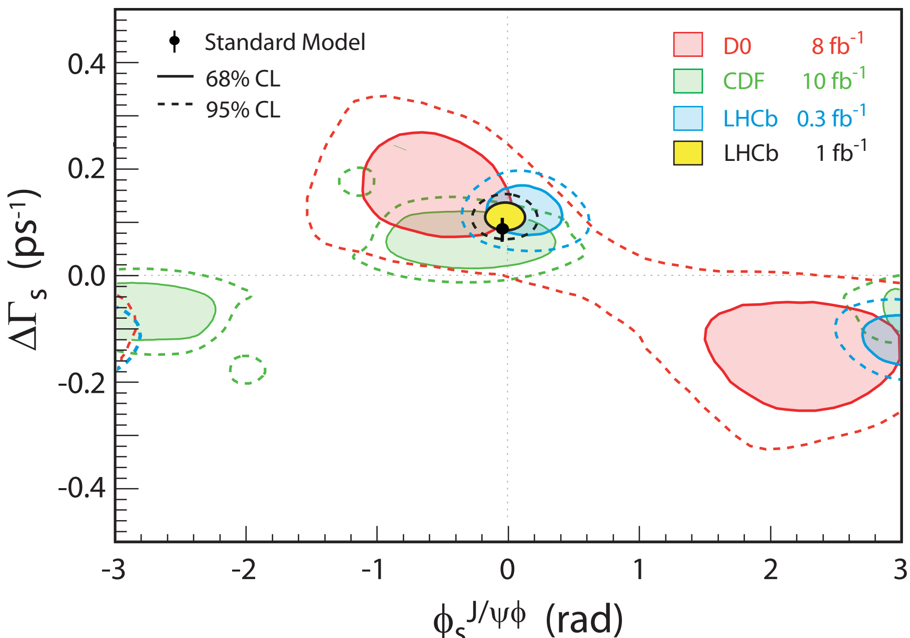

Figure 3: Comparison of our result to those from other experiments. Note that the style of this figure differs slightly from that of Figure 1

References

[1] LHCb collaboration, A. A. Alves Jr. *et al.*, *The LHCb detector at the LHC*, JINST **3** (2008) S08005.

[2] American Physical Society, *APS REVTEX package*, https://journals.aps.org/revtex.

[3] Particle Data Group, R. L. Workman *et al.*, *Review of particle physics*, Prog. Theor. Exp. Phys. **2022** (2022) 083C01.

[4] LHCb collaboration, R. Aaij *et al.*, *LHCb detector performance*, Int. J. Mod. Phys. **A30** (2015) 1530022, arXiv:1412.6352.

[5] R. Aaij *et al.*, *Performance of the LHCb Vertex Locator*, JINST **9** (2014) P09007, arXiv:1405.7808.

[6] R. Arink *et al.*, *Performance of the LHCb Outer Tracker*, JINST **9** (2014) P01002, arXiv:1311.3893.

[7] P. d'Argent *et al.*, *Improved performance of the LHCb Outer Tracker in LHC Run 2*, JINST **12** (2017) P11016, arXiv:1708.00819.

[8] M. Adinolfi *et al.*, *Performance of the LHCb RICH detector at the LHC*, Eur. Phys. J. **C73** (2013) 2431, arXiv:1211.6759.

[9] A. A. Alves Jr. *et al.*, *Performance of the LHCb muon system*, JINST **8** (2013) P02022, arXiv:1211.1346.

[10] R. Aaij *et al.*, *The LHCb trigger and its performance in 2011*, JINST **8** (2013) P04022, arXiv:1211.3055.

[11] A. Puig, *The LHCb trigger in 2011 and 2012*, LHCb-PUB-2014-046, 2014, do not cite this note in a paper. Its purpose is to document the trigger for data preservation.

[12] V. V. Gligorov and M. Williams, *Efficient, reliable and fast high-level triggering using a bonsai boosted decision tree*, JINST **8** (2013) P02013, arXiv:1210.6861.

[13] T. Likhomanenko *et al.*, *LHCb topological trigger reoptimization*, J. Phys. Conf. Ser. **664** (2015) 082025, arXiv:1510.00572.

[14] G. Dujany and B. Storaci, *Real-time alignment and calibration of the LHCb Detector in Run II*, J. Phys. Conf. Ser. **664** (2015) 082010.

[15] R. Aaij *et al.*, *Tesla: an application for real-time data analysis in high energy physics*, Comput. Phys. Commun. **208** (2016) 35, arXiv:1604.05596.

[16] LHCb collaboration, R. Aaij *et al.*, *Differential branching fractions and isospin asymmetries of $B \to K^{(*)}\mu^+\mu^-$ decays*, JHEP **06** (2014) 133, arXiv:1403.8044.

[17] T. Sjöstrand, S. Mrenna, and P. Skands, *A brief introduction to PYTHIA 8.1*, Comput. Phys. Commun. **178** (2008) 852, arXiv:0710.3820; T. Sjöstrand, S. Mrenna, and P. Skands, *PYTHIA 6.4 physics and manual*, JHEP **05** (2006) 026, arXiv:hep-ph/0603175.

[18] I. Belyaev *et al.*, *Handling of the generation of primary events in Gauss, the LHCb simulation framework*, J. Phys. Conf. Ser. **331** (2011) 032047.

[19] D. J. Lange, *The EvtGen particle decay simulation package*, Nucl. Instrum. Meth. **A462** (2001) 152.

[20] N. Davidson, T. Przedzinski, and Z. Was, *PHOTOS interface in C++: Technical and physics documentation*, Comp. Phys. Comm. **199** (2016) 86, arXiv:1011.0937.

[21] Geant4 collaboration, J. Allison *et al.*, *Geant4 developments and applications*, IEEE Trans. Nucl. Sci. **53** (2006) 270; Geant4 collaboration, S. Agostinelli *et al.*, *Geant4: A simulation toolkit*, Nucl. Instrum. Meth. **A506** (2003) 250.

[22] M. Clemencic *et al.*, *The LHCb simulation application, Gauss: Design, evolution and experience*, J. Phys. Conf. Ser. **331** (2011) 032023.

[23] D. Müller, M. Clemencic, G. Corti, and M. Gersabeck, *ReDecay: A novel approach to speed up the simulation at LHCb*, Eur. Phys. J. **C78** (2018) 1009, arXiv:1810.10362.

[24] H. Voss, A. Hoecker, J. Stelzer, and F. Tegenfeldt, *TMVA - Toolkit for Multivariate Data Analysis with ROOT*, PoS **ACAT** (2007) 040; A. Hoecker *et al.*, *TMVA 4 — Toolkit for Multivariate Data Analysis with ROOT. Users Guide.*, arXiv:physics/0703039.

[25] L. Breiman, J. H. Friedman, R. A. Olshen, and C. J. Stone, *Classification and regression trees*, Wadsworth international group, Belmont, California, USA, 1984.

[26] Y. Freund and R. E. Schapire, *A decision-theoretic generalization of on-line learning and an application to boosting*, J. Comput. Syst. Sci. **55** (1997) 119.

[27] LHCb collaboration, R. Aaij *et al.*, *Measurements of the Λ_b^0, Ξ_b^-, and Ω_b^- baryon masses*, Phys. Rev. Lett. **110** (2013) 182001, arXiv:1302.1072.

[28] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of D meson mass differences*, JHEP **06** (2013) 065, arXiv:1304.6865.

[29] LHCb collaboration, R. Aaij *et al.*, *The LHCb Upgrade I*, JINST **19** (2024) P05065, arXiv:2305.10515.

[30] LHCb collaboration, *LHCb VELO Upgrade Technical Design Report*, CERN-LHCC-2013-021, 2013.

[31] LHCb collaboration, *LHCb Tracker Upgrade Technical Design Report*, CERN-LHCC-2014-001, 2014.

[32] LHCb collaboration, *LHCb PID Upgrade Technical Design Report*, CERN-LHCC-2013-022, 2013.

[33] LHCb collaboration, *LHCb Trigger and Online Upgrade Technical Design Report*, CERN-LHCC-2014-016, 2014.

[34] A. Feder, *Your BibTEX resource*, http://www.bibtex.org/.

[35] T. D. Lee, S. Weinberg, and B. Zumino, *Algebra of fields*, Phys. Rev. Lett. **18** (1967) 1029.

[36] LHCb collaboration, R. Aaij *et al.*, *Search for dark photons produced in 13 TeV pp collisions*, Phys. Rev. Lett. **120** (2018) 061801, arXiv:1710.02867.

[37] M. Shell, *Mciteplus: Enhanced multicitations*, http://www.michaelshell.org/tex/mciteplus/.

[38] N. Cabibbo, *Unitary symmetry and leptonic decays*, Phys. Rev. Lett. **10** (1963) 531; M. Kobayashi and T. Maskawa, *CP-violation in the renormalizable theory of weak interaction*, Prog. Theor. Phys. **49** (1973) 652.

[39] LHCb collaboration, *Inclusive low mass Drell-Yan production in the forward region at $\sqrt{s} = 7$ TeV*, LHCb-CONF-2012-013, 2012.

[40] J. Dickens, *A measurement of the photon efficiency from the 2010 data*, LHCb-INT-2011-047, 2011; C. Adrover *et al.*, *Searches for $B^0_s \to \mu^+\mu^-$ and $B^0 \to \mu^+\mu^-$ in $370\,pb^{-1}$ at LHCb*, LHCb-ANA-2011-078, 2011; P. Owen, *Measurement of branching fractions, isospin asymmetries and angular observables in exclusive electroweak penguin decays*, CERN-THESIS-2014-057, 2014; P. Perret, *First Years of Running for the LHCb Calorimeter system*, LHCb-PROC-2014-017, 2014; U. Egede, *Future of heavy flavour physics*, LHCb-TALK-2014-257, 2014.

[41] LHCb collaboration, R. Aaij *et al.*, *Measurement of charged particle multiplicities and densities in pp collisions at $\sqrt{s} = 7$ TeV in the forward region*, Eur. Phys. J. **C74** (2014) 2888, arXiv:1402.4430.

[42] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $B^0_s \to \overline{D}^0\phi$*, Phys. Lett. **B727** (2013) 403, arXiv:1308.4583.

[43] LHCb collaboration, R. Aaij *et al.*, *Observation of $J/\psi p$ resonances consistent with pentaquark states in $\Lambda^0_b \to J/\psi pK^-$ decays*, Phys. Rev. Lett. **115** (2015) 072001, arXiv:1507.03414.

[44] M. Gell-Mann, *A Schematic Model of Baryons and Mesons*, Phys. Lett. **8** (1964) 214; G. Zweig, *An SU_3 model for strong interaction symmetry and its breaking; Version 1* CERN-TH-401, CERN, Geneva, 1964.

[45] M. B. Gavela *et al.*, *Standard model CP violation and baryon asymmetry. Part 2: Finite temperature*, Nucl. Phys. **B430** (1994) 382, arXiv:hep-ph/9406289.

[46] M. B. Gavela, P. Hernandez, J. Orloff, and O. Pène, *Standard model CP violation and baryon asymmetry*, Mod. Phys. Lett. **A9** (1994) 795, arXiv:hep-ph/9312215.

[47] P. Huet and E. Sather, *Electroweak baryogenesis and standard model CP violation*, Phys. Rev. **D51** (1995) 379, arXiv:hep-ph/9404302.

[48] R. H. Dalitz, *On the analysis of τ-meson data and the nature of the τ-meson*, Phil. Mag. Ser. 7 **44** (1953) 1068; E. Fabri, *A study of τ-meson decay*, Nuovo Cim. **11** (1954) 479.

[49] Particle Data Group, P. A. Zyla *et al.*, *Review of particle physics*, Prog. Theor. Exp. Phys. **2020** (2020) 083C01.

[50] Particle Data Group, M. Tanabashi *et al.*, *Review of particle physics*, Phys. Rev. **D98** (2018) 030001, and 2019 update.

[51] Particle Data Group, M. Tanabashi *et al.*, *Review of particle physics*, Phys. Rev. **D98** (2018) 030001.

[52] Particle Data Group, C. Patrignani *et al.*, *Review of particle physics*, Chin. Phys. **C40** (2016) 100001.

[53] Particle Data Group, K. A. Olive *et al.*, *Review of particle physics*, Chin. Phys. **C38** (2014) 090001.

[54] Heavy Flavor Averaging Group, Y. Amhis *et al.*, *Averages of b-hadron, c-hadron, and τ-lepton properties as of 2021*, Phys. Rev. **D107** (2023) 052008, arXiv:2206.07501, updated results and plots available at https://hflav.web.cern.ch.

[55] Heavy Flavor Averaging Group, Y. Amhis *et al.*, *Averages of b-hadron, c-hadron, and τ-lepton properties as of 2018*, Eur. Phys. J. **C81** (2021) 226, arXiv:1909.12524, updated results and plots available at https://hflav.web.cern.ch.

[56] Heavy Flavor Averaging Group, Y. Amhis *et al.*, *Averages of b-hadron, c-hadron, and τ-lepton properties as of summer 2016*, Eur. Phys. J. **C77** (2017) 895, arXiv:1612.07233.

[57] Heavy Flavor Averaging Group, Y. Amhis *et al.*, *Averages of b-hadron, c-hadron, and τ-lepton properties as of summer 2014*, arXiv:1412.7515.

[58] CKMfitter group, J. Charles *et al.*, *CP violation and the CKM matrix: Assessing the impact of the asymmetric B factories*, Eur. Phys. J. **C41** (2005) 1, arXiv:hep-ph/0406184, updated results and plots available at http://ckmfitter.in2p3.fr/.

[59] CKMfitter group, J. Charles *et al.*, *Current status of the standard model CKM fit and constraints on $\Delta F = 2$ new physics*, Phys. Rev. **D91** (2015) 073007, arXiv:1501.05013, updated results and plots available at http://ckmfitter.in2p3.fr/.

[60] UTfit collaboration, M. Bona *et al.*, *The unitarity triangle fit in the standard model and hadronic parameters from lattice QCD: A reappraisal after the measurements of* Δm_s *and* $BR(B \to \tau\nu_\tau)$, JHEP **10** (2006) 081, arXiv:hep-ph/0606167, updated results and plots available at http://www.utfit.org/.

[61] UTfit collaboration, M. Bona *et al.*, *Constraints on new physics from the quark mixing unitarity triangle*, Phys. Rev. Lett. **97** (2006) 151803, arXiv:hep-ph/0605213, updated results and plots available at http://www.utfit.org/.

[62] G. A. Cowan, D. C. Craik, and M. D. Needham, *RapidSim: an application for the fast simulation of heavy-quark hadron decays*, Comput. Phys. Commun. **214** (2017) 239, arXiv:1612.07489.

[63] A. Tsaregorodtsev *et al.*, *DIRAC3: The new generation of the LHCb grid software*, J. Phys. Conf. Ser. **219** (2010) 062029; R. Graciani Diaz *et al.*, *Belle-DIRAC setup for using Amazon Elastic Compute Cloud*, Journal of Grid Computing **9** (2011) 65.

[64] R. Aaij *et al.*, *Allen: A high level trigger on GPUs for LHCb*, Comput. Softw. Big Sci. **4** (2020) 7, arXiv:1912.09161.

[65] L. Anderlini *et al.*, *The PIDCalib package*, LHCb-PUB-2016-021, 2016.

[66] M. De Cian, S. Farry, P. Seyfert, and S. Stahl, *Fast neural-net based fake track rejection in the LHCb reconstruction*, LHCb-PUB-2017-011, 2017.

[67] M. Kucharczyk, P. Morawski, and M. Witek, *Primary Vertex Reconstruction at LHCb*, LHCb-PUB-2014-044, 2014.

[68] W. D. Hulsbergen, *Decay chain fitting with a Kalman filter*, Nucl. Instrum. Meth. **A552** (2005) 566, arXiv:physics/0503191.

[69] M. Ferro-Luzzi, *Proposal for an absolute luminosity determination in colliding beam experiments using vertex detection of beam-gas interactions*, Nucl. Instrum. Meth. **A553** (2005) 388.

[70] D. Fazzini, *Flavour Tagging in the LHCb experiment*, in *Proceedings, 6th Large Hadron Collider Physics Conference (LHCP 2018): Bologna, Italy, June 4-9, 2018*, **LHCP2018** 230, 2018.

[71] LHCb collaboration, R. Aaij *et al.*, *Opposite-side flavour tagging of B mesons at the LHCb experiment*, Eur. Phys. J. **C72** (2012) 2022, arXiv:1202.4979.

[72] LHCb collaboration, R. Aaij *et al.*, *B flavour tagging using charm decays at the LHCb experiment*, JINST **10** (2015) P10005, arXiv:1507.07892.

[73] LHCb collaboration, R. Aaij *et al.*, *A new algorithm for identifying the flavour of B_s^0 mesons at LHCb*, JINST **11** (2016) P05010, arXiv:1602.07252.

[74] LHCb collaboration, R. Aaij *et al.*, *New algorithms for identifying the flavour of B^0 mesons using pions and protons*, Eur. Phys. J. **C77** (2017) 238, arXiv:1610.06019.

[75] P. Koppenburg, *Statistical biases in measurements with multiple candidates*, arXiv:1703.01128.

[76] M. Pivk and F. R. Le Diberder, *sPlot: A statistical tool to unfold data distributions*, Nucl. Instrum. Meth. **A555** (2005) 356, arXiv:physics/0402083.

[77] Y. Xie, *sFit: a method for background subtraction in maximum likelihood fit*, arXiv:0905.0724.

[78] G. Punzi, *Sensitivity of searches for new signals and its optimization*, eConf **C030908** (2003) MODT002, arXiv:physics/0308063.

[79] T. Adye, *Unfolding algorithms and tests using RooUnfold*, in *PHYSTAT 2011*, (Geneva), 313–318, CERN, 2011, arXiv:1105.1160.

[80] F. Pedregosa *et al.*, *Scikit-learn: Machine learning in Python*, J. Machine Learning Res. **12** (2011) 2825, arXiv:1201.0490, and online at http://scikit-learn.org/stable/.

[81] J. Back *et al.*, LAURA^{++}*: A Dalitz plot fitter*, Comput. Phys. Commun. **231** (2018) 198, arXiv:1711.09854.

[82] A. Rogozhnikov, *Reweighting with boosted decision trees*, J. Phys. Conf. Ser. **762** (2016) 012036, arXiv:1608.05806, https://github.com/arogozhnikov/hep_ml.

[83] N. Dawe *et al.*, *scikit-hep/root_numpy : The interface between ROOT and NumPy.* Zenodo, 2018. doi: 10.5281/zenodo.592881.

[84] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CKM angle γ from a combination of LHCb results*, JHEP **12** (2016) 087, arXiv:1611.03076.

[85] LHCb collaboration, R. Aaij *et al.*, *Simultaneous determination of CKM angle γ and charm mixing parameters*, JHEP **12** (2021) 141, arXiv:2110.02350.

[86] M. Kenzie *et al.*, *GammaCombo: A statistical analysis framework for combining measurements, fitting datasets and producing confidence intervals*, doi: 10.5281/zenodo.3371421.

[87] M. Abadi *et al.*, *TensorFlow: Large-scale machine learning on heterogeneous systems*, 2015. Software available from tensorflow.org.

[88] T. Skwarnicki, *A study of the radiative cascade transitions between the Upsilon-prime and Upsilon resonances*, PhD thesis, Institute of Nuclear Physics, Krakow, 1986, DESY-F31-86-02.

[89] D. Martínez Santos and F. Dupertuis, *Mass distributions marginalized over per-event errors*, Nucl. Instrum. Meth. **A764** (2014) 150, arXiv:1312.5000.

[90] Belle collaboration, H. Ikeda *et al.*, *A detailed test of the CsI(Tl) calorimeter for BELLE with photon beams of energy between 20-MeV and 5.4-GeV*, Nucl. Instrum. Meth. **A441** (2000) 401.

[91] A. D. Bukin, *Fitting function for asymmetric peaks*, arXiv:0711.4449.

[92] S. S. Wilks, *The large-sample distribution of the likelihood ratio for testing composite hypotheses*, Ann. Math. Stat. **9** (1938) 60.

[93] A. L. Read, *Presentation of search results: The CL_s technique*, J. Phys. **G28** (2002) 2693.

[94] R. Nisius, *BLUE: combining correlated estimates of physics observables within ROOT using the Best Linear Unbiased Estimate method*, SoftwareX **11** (2020) 100468, arXiv:2001.10310.

[95] B. Efron, *Bootstrap methods: Another look at the jackknife*, Ann. Statist. **7** (1979) 1.

[96] J. M. Blatt and V. F. Weisskopf, *Theoretical nuclear physics*, Springer, New York, 1952.

[97] LHCb collaboration, R. Aaij *et al.*, *Measurement of the fragmentation fraction ratio f_s/f_d and its dependence on B meson kinematics*, JHEP **04** (2013) 001, arXiv:1301.5286, f_s/f_d value updated in LHCb-CONF-2013-011.

[98] E. Todesco and J. Wenninger, *Large Hadron Collider momentum calibration and accuracy*, Phys. Rev. Accel. Beams **20** (2017) 081003.

[99] LHCb collaboration, T. Gershon, *Exotic hadron naming convention*, LHCb-PUB-2022-013, 2022.

[100] A. Davis *et al.*, *Measurement of the instrumental asymmetry for $K^-\pi^+$-pairs at LHCb in Run 2*, LHCb-PUB-2018-004, 2018.

[101] LHCb collaboration, R. Aaij *et al.*, *Tracking of charged particles with nanosecond lifetimes at LHCb*, Eur. Phys. J. **C84** (2024) 761, arXiv:2403.09483.

[102] LHCb collaboration, R. Aaij *et al.*, *Momentum scale calibration of the LHCb spectrometer*, JINST **19** (2024) P02008, arXiv:2312.01772.

[103] LHCb collaboration, R. Aaij *et al.*, *Helium identification with LHCb*, JINST **19** (2024) P02010, arXiv:2310.05864.

[104] LHCb collaboration, R. Aaij *et al.*, *Charge-dependent curvature-bias corrections using a pseudomass method*, JINST **19** (2024) P03010, arXiv:2311.04670.

[105] LHCb collaboration, R. Aaij *et al.*, *Centrality determination in heavy-ion collisions with the LHCb detector*, JINST **17** (2022) P05009, arXiv:2111.01607.

[106] R. Aaij *et al.*, , LHCb-DP-2020-003, in preparation.

[107] L. Anderlini *et al.*, *Muon identification for LHCb Run 3*, JINST **15** (2020) T12005, arXiv:2008.01579.

[108] C. Abellan Beteta *et al.*, *Calibration and performance of the LHCb calorimeters in Run 1 and 2 at the LHC*, arXiv:2008.11556, submitted to JINST.

[109] R. Aaij *et al.*, , LHCb-DP-2019-006, in preparation.

[110] R. Aaij *et al.*, , LHCb-DP-2019-004, in preparation.

[111] S. Benson, A. Casais Vidal, X. Cid Vidal, and A. Puig Navarro, *Real-time discrimination of photon pairs using machine learning at the LHC*, arXiv:1906.09058, submitted to sciPost Physics.

[112] LHCb collaboration, R. Aaij *et al.*, *Measurement of the electron reconstruction efficiency at LHCb*, JINST **14** (2019) P11023, arXiv:1909.02957.

[113] R. Aaij *et al.*, *A comprehensive real-time analysis model at the LHCb experiment*, JINST **14** (2019) P04006, arXiv:1903.01360.

[114] R. Aaij *et al.*, *Design and performance of the LHCb trigger and full real-time reconstruction in Run 2 of the LHC*, JINST **14** (2019) P04013, arXiv:1812.10790.

[115] C. Abellan Beteta *et al.*, *Monitoring radiation damage in the LHCb Tracker Turicensis*, arXiv:1809.05063.

[116] M. Alexander *et al.*, *Mapping the material in the LHCb vertex locator using secondary hadronic interactions*, JINST **13** (2018) P06008, arXiv:1803.07466.

[117] R. Aaij *et al.*, *Selection and processing of calibration samples to measure the particle identification performance of the LHCb experiment in Run 2*, Eur. Phys. J. Tech. Instr. **6** (2019) 1, arXiv:1803.00824.

[118] K. Carvalho Akiba *et al.*, *The HeRSCheL detector: high-rapidity shower counters for LHCb*, JINST **13** (2018) P04017, arXiv:1801.04281.

[119] LHCb collaboration, R. Aaij *et al.*, *Measurement of the track reconstruction efficiency at LHCb*, JINST **10** (2015) P02007, arXiv:1408.1251.

[120] F. Archilli *et al.*, *Performance of the muon identification at LHCb*, JINST **8** (2013) P10020, arXiv:1306.0249.

[121] A. Affolder *et al.*, *Radiation damage in the LHCb vertex locator*, JINST **8** (2013) P08002, arXiv:1302.5259.

[122] D. van Eijk *et al.*, *Radiation hardness of the LHCb Outer Tracker*, Nucl. Instrum. Meth. **A685** (2012) 62 LHCb-DP-2012-001.

[123] R. B. Appleby *et al.*, *Simulation of machine induced background in the LHCb experiment: methodology and implementation*, IEEE Trans. Nucl. Sci. **59** (2012) 1681 LHCb-DP-2011-002.

[124] M. Anelli *et al.*, *Performance of the LHCb muon system with cosmic rays*, JINST **5** (2010) P10003, arXiv:1009.1963.

[125] S. Borghi *et al.*, *First spatial alignment of the LHCb VELO and analysis of beam absorber collision data*, Nucl. Instrum. Meth. **A618** (2010) 108 LHCb-DP-2010-001.

[126] LHCb collaboration, *LHCb Framework TDR for the LHCb Upgrade II Opportunities in flavour physics, and beyond, in the HL-LHC era*, CERN-LHCC-2021-012, 2022.

[127] LHCb collaboration, *LHCb PLUME: Probe for LUminosity MEasurementt*, CERN-LHCC-2021-002, 2021.

[128] LHCb collaboration, *LHCb Upgrade GPU High Level Trigger Technical Design Report*, CERN-LHCC-2020-006, 2020.

[129] LHCb collaboration, *LHCb SMOG Upgrade*, CERN-LHCC-2019-005, 2019.

[130] LHCb collaboration, *Computing Model of the Upgrade LHCb experiment*, CERN-LHCC-2018-014, 2018.

[131] LHCb collaboration, *Physics case for an LHCb Upgrade II — Opportunities in flavour physics, and beyond, in the HL-LHC era*, arXiv:1808.08865.

[132] LHCb collaboration, *Expression of Interest for a Phase-II LHCb Upgrade: Opportunities in flavour physics, and beyond, in the HL-LHC era*, CERN-LHCC-2017-003, 2017.

[133] LHCb collaboration, *LHCb Upgrade Software and Computing*, CERN-LHCC-2018-007, 2018.

[134] LHCb collaboration, *Framework TDR for the LHCb Upgrade: Technical Design Report*, CERN-LHCC-2012-007, 2012.

[135] LHCb collaboration, *LHCb computing: Technical Design Report*, CERN-LHCC-2005-019, 2005.

[136] LHCb collaboration, *LHCb trigger system: Technical Design Report*, CERN-LHCC-2003-031, 2003.

[137] LHCb collaboration, *LHCb reoptimized detector design and performance: Technical Design Report*, CERN-LHCC-2003-030, 2003.

[138] LHCb collaboration, *LHCb inner tracker: Technical Design Report*, CERN-LHCC-2002-029, 2002.

[139] LHCb collaboration, *LHCb online system, data acquisition and experiment control: Technical Design Report*, CERN-LHCC-2001-040, 2001.

[140] LHCb collaboration, *LHCb outer tracker: Technical Design Report*, CERN-LHCC-2001-024, 2001.

[141] LHCb collaboration, *LHCb VELO (VErtex LOcator): Technical Design Report*, CERN-LHCC-2001-011, 2001.

[142] LHCb collaboration, *LHCb muon system: Technical Design Report*, CERN-LHCC-2001-010, 2001.

[143] LHCb collaboration, *LHCb RICH: Technical Design Report*, CERN-LHCC-2000-037, 2000.

[144] LHCb collaboration, *LHCb calorimeters: Technical Design Report*, CERN-LHCC-2000-036, 2000.

[145] LHCb collaboration, *LHCb magnet: Technical Design Report*, CERN-LHCC-2000-007, 2000.

[146] LHCb collaboration, R. Aaij *et al.*, *TBD*, LHCb-PAPER-2024-048, in preparation, to be submitted to XXXX.

[147] LHCb collaboration, R. Aaij *et al.*, *TBD*, LHCb-PAPER-2024-047, in preparation, to be submitted to XXXX.

[148] LHCb collaboration, R. Aaij *et al.*, *TBD*, LHCb-PAPER-2024-046, in preparation, to be submitted to XXXX.

[149] LHCb collaboration, R. Aaij *et al.*, *TBD*, LHCb-PAPER-2024-045, in preparation, to be submitted to XXXX.

[150] LHCb collaboration, R. Aaij *et al.*, *TBD*, LHCb-PAPER-2024-044, in preparation, to be submitted to XXXX.

[151] LHCb collaboration, R. Aaij *et al.*, *Study of Λ_b^0 and Ξ_b^0 decays to $\Lambda h^+ h'^-$ and evidence for CP violation in $\Lambda_b^0 \to \Lambda K^+ K^-$*, LHCb-PAPER-2024-043, in preparation, to be submitted to Phys. Rev. Lett.

[152] LHCb collaboration, R. Aaij *et al.*, *A measurement of the differential cross-section for ρ mesons produced in ultra-peripheral PbPb collisions*, LHCb-PAPER-2024-042, in preparation, to be submitted to JHEP.

[153] LHCb collaboration, R. Aaij *et al.*, *Measurement of $\psi(2S)$ to J/ψ ratio as a function of multiplicity in PbPb collisions at $\sqrt{s_{NN}}$ =5.02 TeV*, LHCb-PAPER-2024-041, in preparation, to be submitted to JHEP.

[154] LHCb collaboration, R. Aaij *et al.*, *Observation of the open-charm tetraquark state $T_{cs0}^{*}(2870)^0$ in the $B^- \to D^- D^0 K_S^0$ decay*, LHCb-PAPER-2024-040, in preparation, to be submitted to Phys. Rev. Lett.

[155] LHCb collaboration, R. Aaij *et al.*, *Relative branching ratio measurement of $B^+ \to \psi(2S)\phi(1020)K^+$ decays*, LHCb-PAPER-2024-039, in preparation, to be submitted to Phys. Rev. D.

[156] LHCb collaboration, R. Aaij *et al.*, *Measurement of multiplicity dependence of Υ production ratios in pp collisions at $\sqrt{s} = 13$ TeV*, LHCb-PAPER-2024-038, in preparation, to be submitted to JHEP.

[157] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $B^- \to D^{**0}\tau^-\overline{\nu}_\tau$ decay rate*, LHCb-PAPER-2024-037, in preparation, to be submitted to Phys. Rev. Lett.

[158] LHCb collaboration, R. Aaij *et al.*, *Measurement of ϕ meson production in fixed-target pNe collisions at $\sqrt{s_{NN}} = 68.5$ GeV at LHCb*, LHCb-PAPER-2024-036, in preparation, to be submitted to JHEP.

[159] LHCb collaboration, R. Aaij *et al.*, *Study of $B_c^+ \to D^0 h^+$, $B_c^+ \to D_s^+ \phi$ and $B_c^+ \to D^+ K^{*0}$ decays*, LHCb-PAPER-2024-035, in preparation, to be submitted to JHEP.

[160] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of $\Xi_c^+ \to p K^- \pi^+$ decays from semileptonic production*, LHCb-PAPER-2024-034, in preparation, to be submitted to Phys. Rev. D.

[161] LHCb collaboration, R. Aaij *et al.*, *Study of $D_{s1}^+(2460) \to D_s^+ \pi^+ \pi^-$ in $B \to D^{(*)} D_s^+ \pi^+ \pi^-$ decays*, LHCb-PAPER-2024-033, in preparation, to be submitted to Science Bullettin.

[162] LHCb collaboration, R. Aaij *et al.*, *Test of lepton flavour universality with $B_s^0 \to \phi \ell^+ \ell^-$ decays*, LHCb-PAPER-2024-032, CERN-EP-2024-255, in preparation, to be submitted to Phys. Rev. Lett.

[163] LHCb collaboration, R. Aaij *et al.*, *First evidence for direct CP violation in beauty to charmonium decays*, LHCb-PAPER-2024-031, in preparation, to be submitted to Phys. Rev. Lett.

[164] LHCb collaboration, R. Aaij *et al.*, *Constraints on the photon polarisation in $b \to s\gamma$ transitions using $B_s^0 \to \phi e^+ e^-$ decays*, LHCb-PAPER-2024-030, in preparation, to be submitted to JHEP.

[165] LHCb collaboration, R. Aaij *et al.*, *Improved branching fraction measurements of $B_{(s)}^0 \to K_S^0 h^+ h'^-$ decays and first observation of $B_s^0 \to K_S^0 K^+ K^-$*, LHCb-PAPER-2024-029, in preparation, to be submitted to JHEP.

[166] LHCb collaboration, R. Aaij *et al.*, *Measurement of the effective leptonic weak mixing angle*, arXiv:2410.02502, Submitted to JHEP.

[167] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in $B^0 \to D^+ D^-$ and $B_s^0 \to D_s^+ D_s^-$ decays*, arXiv:2409.03009, Submitted to JHEP.

[168] LHCb collaboration, R. Aaij *et al.*, *Search for $B_{(s)}^{*0} \to \mu^+ \mu^-$ in $B_c^+ \to \pi^+ \mu^+ \mu^-$ decays*, arXiv:2409.17209, Submitted to Eur. Phys. J. C.

[169] LHCb collaboration, R. Aaij *et al.*, *Observation of muonic Dalitz decays of χ_b mesons and precise spectroscopy of hidden beauty*, arXiv:2408.05134, Submitted to JHEP.

[170] LHCb collaboration, R. Aaij *et al.*, *Analysis of $\Lambda_b \to p K^- \mu^+ \mu^-$ decays*, arXiv:2409.12629, Submitted to JHEP.

[171] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CKM angle γ in $B^\pm \to D K^{*\pm}$ decays*, LHCb-PAPER-2024-023, in preparation, to be submitted to JHEP.

[172] LHCb collaboration, R. Aaij *et al.*, *Angular analysis of $B^0 \to K^{*0} e^+ e^-$ decays*, LHCb-PAPER-2024-022, in preparation, to be submitted to JHEP.

[173] LHCb collaboration, R. Aaij *et al.*, *Measurements of $\psi(2S)$ and $\chi_{c1}(3872)$ within fully reconstructed jets*, LHCb-PAPER-2024-021, in preparation, to be submitted to Eur. Phys. J. C.

[174] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetry in $B_s^0 \to D_s^{\mp}K^{\pm}$ decay*, LHCb-PAPER-2024-020, in preparation, to be submitted to JHEP.

[175] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation observables in $D^+ \to K^-K^+\pi^+$ decays*, arXiv:2409.01414, Submitted to Phys. Rev. Lett.

[176] LHCb collaboration, R. Aaij *et al.*, *First determination of the spin-parities of the $\Xi_c(3055)^{+,0}$ baryons*, arXiv:2409.05440, Submitted to Phys. Rev. Lett.

[177] LHCb collaboration, R. Aaij *et al.*, *Measurement of Λ_b^0, Λ_c^+ and Λ decay parameters using $\Lambda_b^0 \to \Lambda_c^+ h^-$ decays*, arXiv:2409.02759, Submitted to Phys. Rev. Lett.

[178] LHCb collaboration, R. Aaij *et al.*, *Study of the rare decay $J/\psi \to \mu^+\mu^-\mu^+\mu^-$*, arXiv:2408.16646, Submitted to JHEP.

[179] LHCb collaboration, R. Aaij *et al.*, *Probing the nature of the $\chi_{c1}(3872)$ state using radiative decays*, arXiv:2406.17006, submitted to JHEP.

[180] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of $B^+ \to \psi(2S)K^+\pi^+\pi^-$ decays*, arXiv:2407.12475, Submitted to JHEP.

[181] LHCb collaboration, R. Aaij *et al.*, *Study of $b-$hadron decays to $\Lambda_c^+ h^- h'^-$ final states*, JHEP **08** (2024) 132, arXiv:2405.12688.

[182] LHCb collaboration, R. Aaij *et al.*, *Measurement of exclusive J/ψ and $\psi(2S)$ production at $\sqrt{s}$ = 13 TeV*, arXiv:2409.03496, Submitted to sciPost. Phys. .

[183] LHCb collaboration, R. Aaij *et al.*, *Comprehensive analysis of local and nonlocal amplitudes in the $B^0 \to K^{*0}\mu^+\mu^-$ decay*, JHEP **09** (2024) 026, arXiv:2405.17347.

[184] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of the Ξ_b^- baryon lifetime*, Phys. Rev. **D110** (2024) , arXiv:2406.12111.

[185] LHCb collaboration, R. Aaij *et al.*, *Transverse polarisation measurement of Λ hyperons in pNe collisions at $\sqrt{s_{NN}}$=68.4 GeV with the LHCb detector*, JHEP **09** (2024) 082, arXiv:2405.11324.

[186] LHCb collaboration, R. Aaij *et al.*, *Measurement of D^0–$\overline{D}^0$ mixing and search for CP violation with $D^0 \to K^+\pi^-$ decays*, arXiv:2407.18001, Phys. Rev. D.

[187] LHCb collaboration, R. Aaij *et al.*, *Measurement of the branching fraction ratios $R(D^+)$ and $R(D^{*+})$ using muonic τ decays*, arXiv:2406.03387, Submitted to Phys. Review Letters.

[188] LHCb collaboration, R. Aaij *et al.*, *Search for the lepton-flavor violating decay $B_s^0 \to \phi\mu^{\pm}\tau^{\mp}$*, arXiv:2209.09846, Submitted to Phys. Rev. D.

[189] LHCb collaboration, R. Aaij *et al.*, *Search for the rare decay of charmed baryon Λ_c^+ into the $p\mu^+\mu^-$ final state*, Phys. Rev. **D110** (2024) 052007, arXiv:2407.11474.

[190] LHCb collaboration, R. Aaij *et al.*, *Study of charmonium production via the decay to $p\bar{p}$ at $\sqrt{s} = 13$ TeV*, arXiv:2407.14261, Submitted to Eur. Phys. Journal C.

[191] LHCb collaboration, R. Aaij *et al.*, *Search for time-dependent CP violation in $D^0 \to \pi^+\pi^-\pi^0$ decays*, Phys. Rev. Lett. **133** (2024) 101803, arXiv:2405.06556.

[192] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of the radiative decay $B^0_s \to K^+K^-\gamma$*, arXiv:2406.00235, Submitted to JHEP.

[193] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis and branching fraction measurement of $B^+ \to D^{*-}D^+_s\pi^+$ decays*, JHEP **08** (2024) 165, arXiv:2405.00098.

[194] LHCb collaboration, R. Aaij *et al.*, *Observation of new charmonium or charmoniumlike states in $B^+ \to D^{*\pm}D^{\mp}K^+$ decays*, Phys. Rev. Lett. **133** (2024) 131902, arXiv:2406.03156.

[195] LHCb collaboration, R. Aaij *et al.*, *Observation of the $B^+_c \to J/\psi\pi^+\pi^0$ decay*, JHEP **04** (2024) 151, arXiv:2402.05523.

[196] LHCb collaboration, R. Aaij *et al.*, *Search for the $B^0_s \to \mu^+\mu^-\gamma$ decay*, JHEP **07** (2024) 101, arXiv:2404.03375.

[197] LHCb collaboration, R. Aaij *et al.*, *First observation of $\Lambda^0_b \to \Sigma_c^{(*)++}D^{(*)-}K^-$ decays*, Phys. Rev. **D110** (2024) L031104, arXiv:2404.19510.

[198] LHCb collaboration, R. Aaij *et al.*, *Observation of exotic $J/\psi\phi$ resonances in diffractive processes in proton-proton collisions*, arXiv:2407.14301, Submitted to Phys. Rev. Lett.

[199] LHCb collaboration, R. Aaij *et al.*, *First observation of the $\Lambda^0_b \to D^+D^-\Lambda$ decay*, JHEP **07** (2024) 140, arXiv:2403.03586.

[200] LHCb collaboration, R. Aaij *et al.*, *Measurement of the branching fraction of $B^0 \to J/\psi\pi^0$ decays*, JHEP **05** (2024) 065, arXiv:2402.05528.

[201] LHCb collaboration, R. Aaij *et al.*, *Study of CP violation in $B^0_{(s)} \to DK^*(892)^0$ decays with $D \to K\pi(\pi\pi)$, $\pi\pi(\pi\pi)$, and KK final states*, JHEP **05** (2024) 025, arXiv:2401.17934.

[202] LHCb collaboration, R. Aaij *et al.*, *Study of $B^+_c \to \chi_c\pi^+$ decays*, JHEP **02** (2024) 173, arXiv:2312.12987.

[203] LHCb collaboration, R. Aaij *et al.*, *Measurements of the branching fraction ratio $\mathcal{B}(\phi \to \mu^+\mu^-)/\mathcal{B}(\phi \to e^+e^-)$ with charm meson decays*, JHEP **05** (2024) 293, arXiv:2402.01336.

[204] LHCb collaboration, R. Aaij *et al.*, *Search for $B^+_c \to \pi^+\mu^+\mu^-$ decays and measurement of the branching fraction ratio $\mathcal{B}(B^+_c \to \psi(2S)\pi^+)/\mathcal{B}(B^+_c \to J/\psi\pi^+)$*, Eur. Phys. J. **C84** (2024) , arXiv:2312.12228.

[205] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of the $\Lambda^0_b \to pK^-\gamma$ decay*, JHEP **06** (2024) 098, arXiv:2403.03710.

[206] LHCb collaboration, R. Aaij *et al.*, *Multiplicity dependence of $\sigma_{\psi(2S)}/\sigma_{J/\psi}$ in pp collisions at $\sqrt{s} = 13$ TeV*, JHEP **05** (2024) 243, arXiv:2312.15201.

[207] LHCb collaboration, R. Aaij *et al.*, *Observation of $\Lambda_b^0 \to \Lambda_c^+ \bar{D}^{(*)0} K^-$ and $\Lambda_b^0 \to \Lambda_c^+ D_s^{*-}$ decays*, Eur. Phys. J. **C84** (2024) 575, arXiv:2311.14088.

[208] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of the $B^0 \to K^{*0}\mu^+\mu^-$ decay*, Phys. Rev. Lett. **132** (2024) 131801, arXiv:2312.09115.

[209] LHCb collaboration, R. Aaij *et al.*, *Determination of short- and long-distance contributions in $B^0 \to K^{*0}\mu^+\mu^-$ decays*, Phys. Rev. **D109** (2024) 052009, arXiv:2312.09102.

[210] LHCb collaboration, R. Aaij *et al.*, *Measurement of forward charged hadron flow harmonics in peripheral PbPb collisions at $\sqrt{s_{NN}} = 5$ TeV with the LHCb detector*, Phys. Rev. **C109** (2024) 054908, arXiv:2311.09985.

[211] LHCb collaboration, R. Aaij *et al.*, *Production of η and η' mesons in pp and pPb collisions*, Phys. Rev. **C109** (2024) 024907, arXiv:2310.17326.

[212] LHCb collaboration, R. Aaij *et al.*, *A model-independent measurement of the CKM angle γ in partially reconstructed $B^\pm \to D^* h^\pm$ decays with $D \to K_S^0 h^+ h^-$ $(h = \pi, K)$*, JHEP **02** (2024) 118, arXiv:2311.10434.

[213] LHCb collaboration, R. Aaij *et al.*, *Fraction of χ_c decays in prompt J/ψ production measured in pPb collisions at $\sqrt{s_{NN}} = 8.16$ TeV*, Phys. Rev. Lett. **132** (2024) 102302, arXiv:2311.01562.

[214] LHCb collaboration, R. Aaij *et al.*, *Enhanced production of Λ_b^0 baryons in high-multiplicity pp collisions at $\sqrt{s}$ = 13TeV*, Phys. Rev. Lett. **132** (2024) 081901, arXiv:2310.12278.

[215] LHCb collaboration, R. Aaij *et al.*, *Modification of $\chi_{c1}(3872)$ and $\psi(2S)$ production in pPb collisions at $\sqrt{s_{NN}} = 8.16$ TeV*, Phys. Rev. Lett. **132** (2024) 242301, arXiv:2402.14975.

[216] LHCb collaboration, R. Aaij *et al.*, *A measurement of $\Delta\Gamma_s$*, JHEP **05** (2024) 253, arXiv:2310.12649.

[217] LHCb collaboration, R. Aaij *et al.*, *Prompt and nonprompt $\psi(2S)$ production in pPb collisions at $\sqrt{s_{NN}} = 8.16$ TeV*, JHEP **04** (2024) 111, arXiv:2401.11342.

[218] LHCb collaboration, R. Aaij *et al.*, *Measurement of associated J/ψ-$\psi(2S)$ production cross-section in pp collisions at $\sqrt{s}$ = 13 TeV*, JHEP **05** (2024) 259, arXiv:2311.15921.

[219] LHCb collaboration, R. Aaij *et al.*, *Measurement of J/ψ-pair production in pp collisions at $\sqrt{s} = 13$ TeV and study of gluon transverse-momentum dependent PDFs*, JHEP **03** (2024) 088, arXiv:2311.14085.

[220] LHCb collaboration, R. Aaij *et al.*, *Observation of strangeness enhancement with charm mesons in high-multiplicity pPb collisions at* $\sqrt{s_{NN}} = 8.16$ *TeV*, Phys. Rev. **D110** (2024) L031105, arXiv:2311.08490.

[221] LHCb collaboration, R. Aaij *et al.*, *Measurement of the* D^* *longitudinal polarisation in* $B^0 \to D^{*-}\tau^+\nu_\tau$ *decays*, arXiv:2311.05224, submitted to Phys. Rev. D.

[222] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in the phase space of* $D^0 \to K^0_S K^\pm \pi^\mp$ *decays with the energy test*, JHEP **03** (2024) 107, arXiv:2310.19397.

[223] LHCb collaboration, R. Aaij *et al.*, *Search for prompt production of pentaquarks in open charm hadron final states*, Phys. Rev. **D110** (2024) 032001, arXiv:2404.07131.

[224] LHCb collaboration, R. Aaij *et al.*, *Observation of* $\Xi^0_b \to \Xi^+_c D^-_s$ *and* $\Xi^-_b \to \Xi^0_c D^-_s$ *decays*, Eur. Phys. J. **C84** (2024) 237, arXiv:2310.13546.

[225] LHCb collaboration, R. Aaij *et al.*, *Improved measurement of CP violation parameters in* $B^0_s \to J/\psi K^+K^-$ *decays in the vicinity of the* $\phi(1020)$ *resonance*, Phys. Rev. Lett. **132** (2024) 051802, arXiv:2308.01468.

[226] LHCb collaboration, R. Aaij *et al.*, *Observation and branching fraction measurement of the decay* $\Xi^-_b \to \Lambda^0_b \pi^-$, Phys. Rev. **D108** (2023) 072002, arXiv:2307.09427.

[227] LHCb collaboration, R. Aaij *et al.*, *Observation of the decays* $B^0_s \to D^\mp_{s1}(2536)K^\pm$, JHEP **10** (2023) 106, arXiv:2308.00587.

[228] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in* $B^0 \to \psi(\to \ell^+\ell^-)K^0_S(\to \pi^+\pi^-)$ *decays*, Phys. Rev. Lett. **132** (2024) 021801, arXiv:2309.09728.

[229] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CKM angle* γ *using the* $B^\pm \to D^* h^\pm$ *channels*, JHEP **12** (2023) 013, arXiv:2310.04277.

[230] LHCb collaboration, R. Aaij *et al.*, *Observation of Cabibbo-suppressed two-body hadronic decays and precision mass measurement of the* Ω^0_c *baryon*, Phys. Rev. Lett. **132** (2024) 081802, arXiv:2308.08512.

[231] LHCb collaboration, R. Aaij *et al.*, *Measurement of the Z boson production cross-section at 5.02 TeV*, JHEP **02** (2024) 070, arXiv:2308.12940.

[232] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CKM angle* γ *in the* $B^0 \to D^0 K^{*0}$ *channel using self-conjugate* $D^0 \to K^0_S h^+ h^-$ *decays*, Eur. Phys. J. **C84** (2024) 206, arXiv:2309.05514.

[233] LHCb collaboration, R. Aaij *et al.*, *Observation of new baryons in the* $\Xi^-_b \pi^+\pi^-$ *and* $\Xi^0_b \pi^+\pi^-$ *systems*, Phys. Rev. Lett. **131** (2023) 171901, arXiv:2307.13399.

[234] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetries and branching fraction ratios of* B^- *decays to two charm mesons*, JHEP **09** (2023) 202, arXiv:2306.09945.

[235] LHCb collaboration, R. Aaij *et al.*, *Measurement of prompt D^+ and D_s^+ production in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV*, JHEP **01** (2024) 070, arXiv:2309.14206.

[236] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in the phase space of $D^0 \to \pi^+\pi^-\pi^0$ decays with the energy test*, JHEP **09** (2023) 129, Erratum ibid. **04** (2024) 040, arXiv:2306.12746.

[237] LHCb collaboration, R. Aaij *et al.*, *Search for $D^*(2007)^0 \to \mu^+\mu^-$ in $B^- \to \pi^-\mu^+\mu^-$ decays*, Eur. Phys. J. **C83** (2023) 666, arXiv:2304.01981.

[238] LHCb collaboration, R. Aaij *et al.*, *Evidence for the decay $B^0 \to \bar{D}^{(*)0}\phi$ and updated measurements of the branching fractions of the $B_s^0 \to \bar{D}^{(*)0}\phi$ modes*, JHEP **10** (2023) 123, arXiv:2306.02768.

[239] LHCb collaboration, R. Aaij *et al.*, *Study of the Bose-Einstein correlations of same-sign pions in proton-lead collisions*, JHEP **09** (2023) 172, arXiv:2306.09755.

[240] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of CP violation in the penguin-mediated decay $B_s^0 \to \phi\phi$*, Phys. Rev. Lett. **131** (2023) 171802, arXiv:2304.06198.

[241] LHCb collaboration, R. Aaij *et al.*, *TBD*, LHCb-PAPER-2022-060, in preparation.

[242] LHCb collaboration, R. Aaij *et al.*, *TBD*, LHCb-PAPER-2022-059, in preparation.

[243] LHCb collaboration, R. Aaij *et al.*, *TBD*, LHCb-PAPER-2022-058, in preparation.

[244] LHCb collaboration, R. Aaij *et al.*, *TBD*, LHCb-PAPER-2022-057, in preparation.

[245] LHCb collaboration, R. Aaij *et al.*, *TBD*, LHCb-PAPER-2022-056, in preparation.

[246] LHCb collaboration, R. Aaij *et al.*, *TBD*, LHCb-PAPER-2022-055, in preparation.

[247] LHCb collaboration, R. Aaij *et al.*, *Observation of the $B^+ \to J/\psi\eta' K^+$ decay*, JHEP **08** (2023) 174, arXiv:2303.09443.

[248] LHCb collaboration, R. Aaij *et al.*, *Measurement of the mass difference and relative production rate of the Ω_b^- and Ξ_b^- baryons*, Phys. Rev. **D108** (2023) 052008, arXiv:2305.15329.

[249] LHCb collaboration, R. Aaij *et al.*, *Test of lepton flavour universality using $B^0 \to D^{*-}\tau^+\nu_\tau$ decays, with hadronic τ channels*, Phys. Rev. **D108** (2023) 012018, Erratum ibid. **D109** (2024) 119902, arXiv:2305.01463.

[250] LHCb collaboration, R. Aaij *et al.*, *Study of charmonium decays to $K_S^0 K\pi$ in the $B \to (K_S^0 K\pi)K$ channels*, Phys. Rev. **D108** (2023) 032010, arXiv:2304.14891.

[251] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $\Lambda_b^0 \to \Lambda(1520)\mu^+\mu^-$ differential branching fraction*, Phys. Rev. Lett. **131** (2023) 151801, arXiv:2302.08262.

[252] LHCb collaboration, R. Aaij *et al.*, *Observation of the $B_s^0 \to \chi_{c1}(3872)\pi^+\pi^-$ decay*, JHEP **07** (2023) 084, arXiv:2302.10629.

[253] LHCb collaboration, R. Aaij *et al.*, *A search for rare $B \to D\mu^+\mu^-$ decays*, JHEP **02** (2024) 032, arXiv:2308.06162.

[254] LHCb collaboration, R. Aaij *et al.*, *Associated production of prompt J/ψ and Υ mesons in pp collisions at $\sqrt{s} = 13$ TeV*, JHEP **08** (2023) 093, arXiv:2305.15580.

[255] LHCb collaboration, R. Aaij *et al.*, *Test of lepton universality in $b \to s\ell^+\ell^-$ decays*, Phys. Rev. Lett. **131** (2023) 051803, arXiv:2212.09152.

[256] LHCb collaboration, R. Aaij *et al.*, *Measurement of lepton universality parameters in $B^+ \to K^+\ell^+\ell^-$ and $B^0 \to K^{*0}\ell^+\ell^-$ decays*, Phys. Rev. **D108** (2023) 032002, arXiv:2212.09153.

[257] LHCb collaboration, R. Aaij *et al.*, *Λ_c^+ polarimetry using the dominant hadronic mode*, JHEP **07** (2023) 228, arXiv:2301.07010.

[258] LHCb collaboration, R. Aaij *et al.*, *Observation of new Ω_c^0 states decaying to the $\Xi_c^+K^-$ final state*, Phys. Rev. Lett. **131** (2023) 131902, arXiv:2302.04733.

[259] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in $D_{(s)}^+ \to K^-K^+K^+$ decays*, JHEP **07** (2023) 067, arXiv:2303.04062.

[260] LHCb collaboration, R. Aaij *et al.*, *Measurement of Ξ_c^+ production in pPb collisions at $\sqrt{s_{\rm NN}} = 8.16$ TeV at LHCb*, Phys. Rev. **C109** (2024) 044901, arXiv:2305.06711.

[261] LHCb collaboration, R. Aaij *et al.*, *Evidence of a $J/\psi K_S^0$ structure in $B^0 \to J/\psi\phi K_S^0$ decays*, Phys. Rev. Lett. **131** (2023) 131901, arXiv:2301.04899.

[262] LHCb collaboration, R. Aaij *et al.*, *Measurement of the ratio of branching fractions $\mathcal{R}(D^*)$ and $\mathcal{R}(D^0)$* , Phys. Rev. Lett. **131** (2023) 111802, arXiv:2302.02886.

[263] LHCb collaboration, R. Aaij *et al.*, *First observation and branching fraction measurement of the $\Lambda_b^0 \to D_s^- p$ decay*, JHEP **07** (2023) 075, arXiv:2212.12574.

[264] LHCb collaboration, R. Aaij *et al.*, *A study of CP violation in the decays $B^\pm \to [K^+K^-\pi^+\pi^-]_D h^\pm$ $(h = K, \pi)$ and $B^\pm \to [\pi^+\pi^-\pi^+\pi^-]_D h^\pm$*, Eur. Phys. J. **C84** (2023) 547, arXiv:2301.10328.

[265] LHCb collaboration, R. Aaij *et al.*, *Measurement of Υ production in pp collisions at $\sqrt{s_{NN}} = 5$ TeV*, JHEP **07** (2023) 069, arXiv:2212.12664.

[266] LHCb collaboration, R. Aaij *et al.*, *Search for $K_{S(L)}^0 \to \mu^+\mu^-\mu^+\mu^-$ decays at LHCb*, Phys. Rev. **D108** (2023) L031102, arXiv:2212.04977.

[267] LHCb collaboration, R. Aaij *et al.*, *Measurement of the ratio of branching fractions $B(B_c^+ \to B_s^0\pi^+)/B(B_c^+ \to J/\psi\pi^+)$*, JHEP **07** (2023) 066, arXiv:2210.12000.

[268] LHCb collaboration, R. Aaij *et al.*, *Search for the rare decays $W^+ \to D_s^+\gamma$ and $Z \to D^0\gamma$ at LHCb*, Chin. Phys. **C47** (2023) 093002, arXiv:2212.07120.

[269] LHCb collaboration, R. Aaij *et al.*, *Measurement of the branching fractions $B^0 \to p\overline{p}p\overline{p}$ and $B^0_s \to p\overline{p}p\overline{p}$*, Phys. Rev. Lett. **131** (2023) 091901, arXiv:2211.08847.

[270] LHCb collaboration, R. Aaij *et al.*, *Observation of a $J/\psi\Lambda$ resonance consistent with a strange pentaquark candidate in $B^- \to J/\psi\Lambda\overline{p}$ decays*, Phys. Rev. Lett. **131** (2023) 031901, arXiv:2210.10346.

[271] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of the $D^+_s \to \pi^-\pi^+\pi^+$ decay*, JHEP **07** (2023) 204, arXiv:2209.09840.

[272] LHCb collaboration, R. Aaij *et al.*, *Search for rare decays of D^0 mesons into two muons*, Phys. Rev. Lett. **131** (2023) 041804, arXiv:2212.11203.

[273] LHCb collaboration, R. Aaij *et al.*, *Study of the $B^+ \to \Lambda^+_c \overline{\Lambda}^-_c K^+$ decay*, Phys. Rev. **D108** (2023) 012020, arXiv:2211.00812.

[274] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of $B^0 \to \overline{D}^0 D^+_s \pi^-$ and $B^+ \to D^- D^+_s \pi^+$ decays*, Phys. Rev. **D108** (2023) 012017, arXiv:2212.02717.

[275] LHCb collaboration, R. Aaij *et al.*, *First observation of a doubly charged tetraquark candidate and its neutral partner*, Phys. Rev. Lett. **131** (2023) 041902, arXiv:2212.02716.

[276] LHCb collaboration, R. Aaij *et al.*, *Study of B^+_c decays to charmonia plus multihadron final states*, JHEP **07** (2023) 198, arXiv:2208.08660.

[277] LHCb collaboration, R. Aaij *et al.*, *Measurement of the time-integrated CP asymmetry in $D^0 \to K^-K^+$ decays*, Phys. Rev. Lett. **131** (2023) 091802, arXiv:2209.03179.

[278] LHCb collaboration, R. Aaij *et al.*, *Observation of the $B^0_s \to D^{*+}D^{*-}$ decay*, JHEP **07** (2023) 119, arXiv:2210.14945.

[279] LHCb collaboration, R. Aaij *et al.*, *Search for the baryon- and lepton-number violating decays $B^0 \to p\mu^-$ and $B^0_s \to p\mu^-$*, Phys. Rev. **D108** (2023) 012021, arXiv:2210.10412.

[280] LHCb collaboration, R. Aaij *et al.*, *Search for the lepton flavour violating decay $B^0 \to K^{*0}\tau^\pm\mu^\mp$* , JHEP **06** (2023) 143, arXiv:2209.09846.

[281] LHCb collaboration, R. Aaij *et al.*, *Model-independent measurement of charm mixing parameters in $\overline{B} \to D^0(\to K^{*0}\pi^+\pi^-)\mu^-\overline{\nu}_\mu X$ decays*, Phys. Rev. **D108** (2023) 052005, arXiv:2208.06512.

[282] LHCb collaboration, R. Aaij *et al.*, *First observation of the $B^+ \to D^+_s D^-_s K^+$ decay*, Phys. Rev. D **108** (2023) 034012, arXiv:2211.05034.

[283] LHCb collaboration, R. Aaij *et al.*, *Observation of a resonant structure near the $D^+_s D^-_s$ threshold in the $B^+ \to D^+_s D^-_s K^+$ decay*, Phys. Rev. Lett. **131** (2023) 071901, arXiv:2210.15153.

[284] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CKM angle γ with $B^{\mp} \to D[K^{\pm}\pi^{\mp}\pi^{\mp}\pi^{\pm}]h^{\mp}$ decays using a binned phase-space approach*, JHEP **07** (2023) 138, arXiv:2209.03692.

[285] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of the $D^+ \to \pi^-\pi^+\pi^+$ decay and measurement of the $\pi^-\pi^+$ S-wave amplitude*, JHEP **06** (2023) 044, arXiv:2208.03300.

[286] LHCb collaboration, R. Aaij *et al.*, *Open charm production and asymmetry in pNe collisions at $\sqrt{s_{NN}} = 68.5$ GeV*, Eur. Phys. J. **C83** (2023) 541, arXiv:2211.11633.

[287] LHCb collaboration, R. Aaij *et al.*, *Charmonium production in pNe collisions at $\sqrt{s_{NN}} = 68.5$ GeV* , Eur. Phys. J. **C83** (2023) 625, arXiv:2211.11645.

[288] LHCb collaboration, R. Aaij *et al.*, *Multidifferential study of identified charged hadron distributions in Z-tagged jets in proton-proton collisions at $\sqrt{s} = 13$ TeV*, Phys. Rev. **D108** (2023) L031103, arXiv:2208.11691.

[289] LHCb collaboration, R. Aaij *et al.*, *Study of exclusive photoproduction of charmonium in ultra-peripheral lead-lead collisions*, JHEP **06** (2023) 146, arXiv:2206.08221.

[290] LHCb collaboration, R. Aaij *et al.*, *J/ψ and D^0 production in $\sqrt{s_{NN}} = 68.5$ GeV PbNe collisions*, Eur. Phys. J. **C83** (2023) 658, arXiv:2211.11652.

[291] LHCb collaboration, R. Aaij *et al.*, *Measurement of τ_L using the $B^0_s \to J/\psi\eta$ decay mode*, Eur. Phys. J. **C83** (2023) 629, arXiv:2206.03088.

[292] LHCb collaboration, R. Aaij *et al.*, *Measurement of the Z boson production cross-section in proton-lead collisions at $\sqrt{s} = 8.16$ TeV*, JHEP **06** (2023) 022, arXiv:2205.10213.

[293] LHCb collaboration, R. Aaij *et al.*, *Search for the lepton-flavour violating decays $B^0 \to K^{*0}\mu^{\pm}e^{\mp}$ and $B^0_s \to \phi\mu^{\pm}e^{\mp}$*, JHEP **06** (2023) 073, arXiv:2207.04005.

[294] LHCb collaboration, R. Aaij *et al.*, *Measurement of the prompt D^0 nuclear modification factor in pPb collisions at $\sqrt{s_{NN}} = 8.16$ TeV*, Phys. Rev. Lett. **131** (2023) 102301, arXiv:2205.03936.

[295] LHCb collaboration, R. Aaij *et al.*, *Measurement of antiproton production from antihyperon decays in pHe collisions at $\sqrt{s_{\rm NN}} = 110$ GeV*, Eur. Phys. J. **C83** (2023) 543, arXiv:2205.09009.

[296] LHCb collaboration, R. Aaij *et al.*, *Search for the doubly heavy baryon Ξ^+_{bc} decaying to $J/\psi\Xi^+_c$*, Chin. Phys. **C47** (2023) 093001, arXiv:2204.09541.

[297] LHCb collaboration, R. Aaij *et al.*, *Search for the rare hadronic decay $B^0_s \to p\overline{p}$*, Phys. Rev. **D108** (2023) 012007, arXiv:2206.06673.

[298] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in $B^0 \to p\overline{p}K^+\pi^-$ using T-odd correlations*, Phys. Rev. **D108** (2023) 032007, arXiv:2205.08973.

[299] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of the $\Lambda_c^+ \to pK^-\pi^+$ decay and Λ_c^+ baryon polarization measurement in semileptonic beauty hadron decays*, Phys. Rev. **D108** (2023) 012023, arXiv:2208.03262.

[300] LHCb collaboration, R. Aaij *et al.*, *Evidence for modification of b quark hadronization in high-multiplicity pp collisions at $\sqrt{s} = 13$ TeV*, Phys. Rev. Lett. **131** (2023) 061901, arXiv:2204.13042.

[301] LHCb collaboration, R. Aaij *et al.*, *Nuclear modification of π^0 production in pPb collisions at $\sqrt{s_{\rm NN}} = 8.16$ TeV*, Phys. Rev. Lett. **131** (2023) 042302, arXiv:2204.10608.

[302] LHCb collaboration, R. Aaij *et al.*, *Observation of the doubly charmed baryon decay $\Xi_{cc}^{++} \to \Xi_c^{\prime +}\pi^+$*, JHEP **05** (2022) 038, arXiv:2202.05648.

[303] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetries in $D_{(s)}^+ \to \eta\pi^+$ and $D_{(s)}^+ \to \eta'\pi^+$ decays*, JHEP **04** (2023) 081, arXiv:2204.12228.

[304] LHCb collaboration, R. Aaij *et al.*, *Search for direct CP violation in charged charmless $B \to PV$ decays*, Phys. Rev. **D108** (2023) 012008, arXiv:2206.02038.

[305] LHCb collaboration, R. Aaij *et al.*, *Direct CP violation in charmless three-body decays of $B^\pm$ mesons*, Phys. Rev. **D108** (2023) 012008, arXiv:2206.07622.

[306] LHCb collaboration, R. Aaij *et al.*, *First measurement of the $Z \to \mu^+\mu^-$ angular coefficients in the forward region of pp collisions at $\sqrt{s} = 13$ TeV*, Phys. Rev. Lett. **129** (2022) 091801, arXiv:2203.1602.

[307] LHCb collaboration, R. Aaij *et al.*, *Study of charmonium and charmonium-like contributions in $B^+ \to J/\psi\eta K^+$ decays*, JHEP **04** (2021) 46, arXiv:2202.04045.

[308] LHCb collaboration, R. Aaij *et al.*, *Measurement of the Λ_c^+/D^0 production ratio in peripheral PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV*, JHEP **06** (2023) 132, arXiv:2210.06939.

[309] LHCb collaboration, R. Aaij *et al.*, *Observation of sizeable ω contribution to $\chi_{c1} \to \pi^+\pi^- J/\psi$ decays*, Phys. Rev. **D108** (2023) L011103, arXiv:2204.12597.

[310] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $\Lambda_b^0 \to \Lambda_c^+\tau^-\overline{\nu}_\tau$*, Phys. Rev. Lett. **128** (2021) 191803, arXiv:2201.03497.

[311] LHCb collaboration, R. Aaij *et al.*, *Observation of the $B^0 \to \overline{D}^{*0}K^+\pi^-$ and $B_s^0 \to \overline{D}^{*0}K^-\pi^+$ decays*, Phys. Rev. **D105** (2022) 072005, arXiv:2112.11428.

[312] LHCb collaboration, R. Aaij *et al.*, *Search for the decay $B^0 \to \phi\mu^+\mu^-$*, JHEP **05** (2022) 067, arXiv:2201.10167.

[313] LHCb collaboration, R. Aaij *et al.*, *Measurement of the charm mixing parameter $y_{CP} - y_{CP}^{K\pi}$ using two-body D^0 meson decays*, Phys. Rev. **D105** (2022) 092013, arXiv:2202.09106.

[314] LHCb collaboration, R. Aaij *et al.*, *Observation of $\Lambda_b^0 \to D^+ p\pi^+\pi^+$ and $\Lambda_b^0 \to D^{*+} p\pi^+\pi^+$ decays*, JHEP **03** (2022) 109, arXiv:2112.02013.

[315] LHCb collaboration, R. Aaij *et al.*, *Search for rare $B^0_{(s)} \to \mu^+\mu^-\mu^+\mu^-$ decays*, JHEP **03** (2022) 109, arXiv:2111.11339.

[316] LHCb collaboration, R. Aaij *et al.*, *Tests of lepton universality using $B^0 \to K^0_S \ell^+\ell^-$ and $B^+ \to K^{*+}\ell^+\ell^-$ decays*, Phys. Rev. Lett. **128** (2022) 191802, arXiv:2110.09501.

[317] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of forward Z boson production in proton-proton collisions at $\sqrt{s} = 13$ TeV*, JHEP **07** (2022) 026, arXiv:2112.07458.

[318] LHCb collaboration, R. Aaij *et al.*, *Constraints on the CKM angle γ from $B^\pm \to Dh^\pm$ decays using $D \to h^\pm h'^\mp \pi^0$ final states*, JHEP **07** (2022) 099, arXiv:2112.10617.

[319] LHCb collaboration, R. Aaij *et al.*, *Angular analysis of $D^0 \to \pi^+\pi^-\mu^+\mu^-$ and $D^0 \to K^+K^-\mu^+\mu^-$ decays and search for CP violation*, Phys. Rev. Lett. **128** (2022) 221801, arXiv:2111.03327.

[320] LHCb collaboration, R. Aaij *et al.*, *Study of B_c^+ decays to charmonia and three light hadrons*, JHEP **01** (2022) 065, arXiv:2111.03001.

[321] LHCb collaboration, R. Aaij *et al.*, *Study of the doubly charmed tetraquark T_{cc}^+*, Nature Communications **13** (2022) 3351, arXiv:2109.01056.

[322] LHCb collaboration, R. Aaij *et al.*, *Observation of an exotic narrow doubly charmed tetraquark*, Nature Physics **18** (2022) 751, arXiv:2109.01038.

[323] LHCb collaboration, R. Aaij *et al.*, *Measurement of the photon polarization in $\Lambda_b^0 \to \Lambda\gamma$ decays*, Phys. Rev. **D105** (2022) 051104, arXiv:2111.10194.

[324] LHCb collaboration, R. Aaij *et al.*, *Study of Z bosons produced in association with charm in the forward region*, Phys. Rev. Lett. **128** (2022) 082001, arXiv:2109.08084.

[325] LHCb collaboration, R. Aaij *et al.*, *Search for exotic massive long-lived particles decaying semileptonically at $\sqrt{s} = 13$ TeV*, Eur. Phys. J. **C82** (2022) 373, arXiv:2110.07293.

[326] LHCb collaboration, R. Aaij *et al.*, *Observation of the suppressed $\Lambda_b^0 \to DpK^-$ decay with $D \to K^+\pi^-$ and measurement of its CP asymmetry*, Phys. Rev. **D104** (2021) 112008, arXiv:2109.02621.

[327] LHCb collaboration, R. Aaij *et al.*, *Measurement of $\chi_{c1}(3872)$ production in proton-proton collisions at $\sqrt{s} = 8$ and 13 TeV*, JHEP **01** (2022) 131, arXiv:2109.07360.

[328] LHCb collaboration, R. Aaij *et al.*, *Observation of two new excited Ξ_b^0 states decaying to $\Lambda_b^0 K^-\pi^+$*, Phys. Rev. Lett. **128** (2022) 162001, arXiv:2110.04497.

[329] LHCb collaboration, R. Aaij *et al.*, *Measurement of the W boson mass*, JHEP **01** (2022) 036, arXiv:2109.01113.

[330] LHCb collaboration, R. Aaij *et al.*, *Updated search for B_c^+ decays to two charm mesons*, JHEP **12** (2021) 117, arXiv:2109.00488.

[331] LHCb collaboration, R. Aaij *et al.*, *Angular analysis of the rare decay $B_s^0 \to \phi\mu^+\mu^-$*, JHEP **11** (2021) 043, arXiv:2107.13428.

[332] LHCb collaboration, R. Aaij *et al.*, *Measurement of the lifetimes of promptly produced Ω_c^0 and Ξ_c^0 baryons*, Science Bulletin **67** (2022) 479, arXiv:2109.01334.

[333] LHCb collaboration, R. Aaij *et al.*, *Measurement of J/ψ production cross-sections in pp collisions at $\sqrt{s} = 5$ TeV*, JHEP **11** (2021) 181, arXiv:2109.00220.

[334] LHCb collaboration, R. Aaij *et al.*, *Search for the doubly charmed baryon Ξ_{cc}^+ in the $\Xi_c^+\pi^-\pi^+$ final state*, JHEP **12** (2021) 107, arXiv:2109.07292.

[335] LHCb collaboration, R. Aaij *et al.*, *Evidence for a new structure in the $J/\psi p$ and $J/\psi\overline{p}$ systems in $B_s^0 \to J/\psi p\overline{p}$ decays*, Phys. Rev. Lett. **128** (2022) 062001, arXiv:2108.04720.

[336] LHCb collaboration, R. Aaij *et al.*, *Search for the radiative $\Xi_b^- \to \Xi^-\gamma$ decay*, JHEP **01** (2022) 069, arXiv:2108.07678.

[337] LHCb collaboration, R. Aaij *et al.*, *Observation of a $\Lambda_b^0 - \overline{\Lambda}_b^0$ production asymmetry in proton-proton collisions at $\sqrt{s} = 7$ and 8 TeV*, JHEP **10** (2021) 060, arXiv:2107.09593.

[338] LHCb collaboration, R. Aaij *et al.*, *Measurement of the nuclear modification factor and prompt charged particle production in pPb and pp collisions at $\sqrt{s_{NN}} = 5$ TeV*, Phys. Rev. Lett. **128** (2022) 142004, arXiv:2108.13115.

[339] LHCb collaboration, R. Aaij *et al.*, *Branching fraction measurements of the rare $B_s^0 \to \phi\mu^+\mu^-$ and $B_s^0 \to f_2'(1525)\mu^+\mu^-$ decays*, Phys. Rev. Lett. **127** (2021) 151801, arXiv:2105.14007.

[340] LHCb collaboration, R. Aaij *et al.*, *Study of coherent J/ψ production in lead-lead collisions at $\sqrt{s_{NN}} = 5$ TeV*, JHEP **07** (2022) 117, arXiv:2107.03223.

[341] LHCb collaboration, R. Aaij *et al.*, *Observation of excited Ω_c^0 baryons in $\Omega_b^- \to \Xi_c{}^+K^-\pi^+$ decays*, Phys. Rev. **D104** (2021) L091102, arXiv:2107.03419.

[342] LHCb collaboration, R. Aaij *et al.*, *Search for the doubly charmed baryon Ω_{cc}^+*, Sci. China Phys. Mech. Astron. **64** (2021) 101062, arXiv:2105.06841.

[343] LHCb collaboration, R. Aaij *et al.*, *Measurement of prompt charged-particle production in pp collisions at $\sqrt{s} = 13$ TeV*, JHEP **01** (2022) 166, arXiv:2107.10090.

[344] LHCb collaboration, R. Aaij *et al.*, *Observation of the mass difference between neutral charm-meson eigenstates*, Phys. Rev. Lett. **127** (2021) 111801, Erratum ibid. **131** (2023) 079901, arXiv:2106.03744.

[345] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $B_s^0 \to \mu^+\mu^-$ decay properties and search for the $B^0 \to \mu^+\mu^-$ and $B_s^0 \to \mu^+\mu^-\gamma$ decays*, Phys. Rev. **D105** (2022) 012010, arXiv:2108.09283.

[346] LHCb collaboration, R. Aaij *et al.*, *Analysis of neutral B-meson decays into two muons*, Phys. Rev. Lett. **128** (2022) 041801, arXiv:2108.09284.

[347] LHCb collaboration, R. Aaij *et al.*, *Angular analysis of $B^0 \to D^{*-}D_s^{*+}$ with $D_s^{*+} \to D_s^+\gamma$ decays*, JHEP **06** (2021) 177, arXiv:2105.02596.

[348] LHCb collaboration, R. Aaij *et al.*, *Precise determination of the B_s^0-$\overline{B}_s^0$ oscillation frequency*, Nature Physics **18** (2022) 1, arXiv:2104.04421.

[349] LHCb collaboration, R. Aaij *et al.*, *Test of lepton universality in beauty-quark decays*, Nature Physics **18** (2022) 277, arXiv:2103.11769.

[350] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $\Lambda_b^0 \to \chi_{c1}p\pi^-$*, JHEP **05** (2021) 095, arXiv:2103.04949.

[351] LHCb collaboration, R. Aaij *et al.*, *Search for the doubly heavy baryons Ω_{bc}^0 and Ξ_{bc}^0 decaying to $\Lambda_c^+\pi^-$ and $\Xi_c^+\pi^-$*, Chin. Phys. **C45** (2021) 093002, arXiv:2104.04759.

[352] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in $D_{(s)}^+ \to h^+\pi^0$ and $D_{(s)}^+ \to h^+\eta$ decays*, JHEP **06** (2021) 019, arXiv:2103.11058.

[353] LHCb collaboration, R. Aaij *et al.*, *Measurement of prompt-cross-section ratio $\sigma(\chi_{c2})/\sigma(\chi_{c1})$ in pPb collisions at $\sqrt{s_{NN}}$ = 8.16 TeV*, Phys. Rev. **C103** (2021) 064905, arXiv:2103.07349.

[354] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetry in $D^0 \to K_S^0K_S^0$ decays*, Phys. Rev. **D104** (2021) L031102, arXiv:2105.01565.

[355] LHCb collaboration, R. Aaij *et al.*, *Precise measurement of the f_s/f_d ratio of fragmentation fractions and of B_s^0 decay branching fractions*, Phys. Rev. **D104** (2021) 032005, arXiv:2103.06810.

[356] LHCb collaboration, R. Aaij *et al.*, *Search for time-dependent CP violation in $D^0 \to K^+K^-$ and $D^0 \to \pi^+\pi^-$ decays*, Phys. Rev. **D104** (2021) 072010, arXiv:2105.09889.

[357] LHCb collaboration, R. Aaij *et al.*, *Observation of new resonances decaying to $J/\psi K^+$ and $J/\psi\phi$* , Phys. Rev. Lett. **127** (2021) 082001, arXiv:2103.01803.

[358] LHCb collaboration, R. Aaij *et al.*, *J/ψ photo-production in Pb-Pb peripheral collisions at $\sqrt{s_{NN}} = 5$ TeV*, Phys. Rev. **C105** (2020) L032201, arXiv:2108.02681.

[359] LHCb collaboration, R. Aaij *et al.*, *First measurement of the CP-violating phase in $B_s^0 \to J/\psi(e^+e^-)\phi$ decays*, arXiv:2105.14738, to appear in EPJC.

[360] LHCb collaboration, R. Aaij *et al.*, *Angular analysis of the $B^+ \to K^{*+}\mu^+\mu^-$ decay*, Phys. Rev. Lett. **126** (2021) 161802, arXiv:2012.13241.

[361] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in the decay $B^+ \to K^+\pi^0$*, Phys. Rev. Lett. **126** (2021) 091802, arXiv:2012.12789.

[362] LHCb collaboration, R. Aaij *et al.*, *Evidence of a $J/\psi\Lambda$ structure and observation of excited Ξ^- states in the $\Xi_b^- \to J/\psi\Lambda K^-$ decay*, Science Bulletin **66** (2021) 1278, arXiv:2012.10380.

[363] LHCb collaboration, R. Aaij *et al.*, *First observation of the decay $B_s^0 \to K^-\mu^+\nu_\mu$ and measurement of $|V_{ub}|/|V_{cb}|$*, Phys. Rev. Lett. **126** (2021) 081804, arXiv:2012.05143.

[364] LHCb collaboration, R. Aaij *et al.*, *Observation of the $B_s^0 \to D^{*\pm}D^\mp$ decay*, JHEP **03** (2021) 099, arXiv:2012.11341.

[365] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP observables in $B^\pm \to D^{(*)}K^\pm$ and $B^\pm \to D^{(*)}\pi^\pm$ decays using two-body D final states*, JHEP **04** (2021) 081, arXiv:2012.09903.

[366] LHCb collaboration, R. Aaij *et al.*, *Study of $B_s^0 \to J/\psi\pi^+\pi^-K^+K^-$ decays*, JHEP **02** (2021) 024, arXiv:2011.01867.

[367] LHCb collaboration, R. Aaij *et al.*, *Observation of a new excited D_s^+ state in $B^0 \to D^-D^+K^+\pi^-$ decays*, Phys. Rev. Lett. **126** (2021) 122002, arXiv:2011.09112.

[368] LHCb collaboration, R. Aaij *et al.*, *Search for the rare decay $B^0 \to J/\psi\phi$*, Chin. Phys. **C45** (2021) 043001, arXiv:2011.06847.

[369] LHCb collaboration, R. Aaij *et al.*, *Observation of a new Ξ_b^0 state*, Phys. Rev. **D103** (2021) 012004, arXiv:2010.14485.

[370] LHCb collaboration, R. Aaij *et al.*, *Measurement of the relative branching fraction of $B^+ \to h^+h'^+h'^-$ decays*, Phys. Rev. **D102** (2020) 112010, arXiv:2010.11802.

[371] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CKM angle γ and B_s^0-$\bar{B}_s^0$ mixing frequency with $B_s^0 \to D_s^\mp h^\pm\pi^\pm\pi^\mp$ decays*, JHEP **03** (2021) 137, arXiv:2011.12041.

[372] LHCb collaboration, R. Aaij *et al.*, *Observation of CP violation in two-body $B_{(s)}^0$-meson decays to charged pions and kaons*, JHEP **03** (2021) 075, arXiv:2012.05319.

[373] LHCb collaboration, R. Aaij *et al.*, *Observation of the $\Lambda_b^0 \to \Lambda_c^+K^+K^-\pi^-$ decay*, Phys. Lett. **B815** (2021) 136172, arXiv:2011.13738.

[374] LHCb collaboration, R. Aaij *et al.*, *Search for long-lived particles decaying to $e^\pm\mu^\mp\nu$*, Eur. Phys. J. **C81** (2021) 261, arXiv:2012.02696.

[375] LHCb collaboration, R. Aaij *et al.*, *Observation of new excited B_s^0 states*, Eur. Phys. J. **C81** (2021) 601, arXiv:2010.15931.

[376] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of the $B^+ \to D^+D^-K^+$ decay*, Phys. Rev. **D102** (2020) 112003, arXiv:2009.00026.

[377] LHCb collaboration, R. Aaij *et al.*, *Model-independent study of structure in $B^+ \to D^+D^-K^+$ decays*, Phys. Rev. Lett. **125** (2020) 242001, arXiv:2009.00025.

[378] LHCb collaboration, R. Aaij *et al.*, *Observation of multiplicity-dependent $\chi_{c1}(3872)$ and $\psi(2S)$ production in pp collisions*, Phys. Rev. Lett. **126** (2021) 092001, arXiv:2009.06619.

[379] LHCb collaboration, R. Aaij *et al.*, *Search for heavy neutral leptons in $W^+ \to \mu^+\mu^\pm$ jet decays*, Eur. Phys. J. **C81** (2021) 248, arXiv:2011.05263.

[380] LHCb collaboration, R. Aaij *et al.*, *Measurement of the branching fraction of the $B^0 \to D_s^+\pi^-$ decay*, Eur. Phys. J. **C81** (2021) 314, arXiv:2010.11986.

[381] LHCb collaboration, R. Aaij *et al.*, *Strong constraints on the $b \to s\gamma$ photon polarisation from $B^0 \to K^{*0}e^+e^-$ decays*, JHEP **12** (2020) 081, arXiv:2010.06011.

[382] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CKM angle γ in $B^\pm \to DK^\pm$ and $B^\pm \to D\pi^\pm$ decays with $D \to K^0_S h^+h^-$*, JHEP **02** (2021) 0169, arXiv:2010.08483.

[383] LHCb collaboration, R. Aaij *et al.*, *Measurement of differential $b\bar{b}$ and $c\bar{c}$ dijet cross-sections in the forward region of pp collisions at $\sqrt{s} = 13$ TeV*, JHEP **02** (2021) 023, arXiv:2010.09437.

[384] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in $\Xi_b^- \to pK^-K^-$decays*, Phys. Rev. **D104** (2021) 052010, arXiv:2104.15074.

[385] LHCb collaboration, R. Aaij *et al.*, *First branching fraction measurement of the suppressed decay $\Xi_c^0 \to \pi^-\Lambda_c^+$*, Phys. Rev. **D102** (2020) 071101(R), arXiv:2007.12096.

[386] LHCb collaboration, R. Aaij *et al.*, *First observation of the decay $B^0 \to D^0\overline{D}^0K^+\pi^-$*, Phys. Rev. **D102** (2020) 051102, arXiv:2007.04280.

[387] LHCb collaboration, R. Aaij *et al.*, *Search for the doubly heavy baryon Ξ_{bc} in the D^0pK^- final state*, JHEP **11** (2020) 095, arXiv:2009.02481.

[388] LHCb collaboration, R. Aaij *et al.*, *Searches for low-mass dimuon resonances*, JHEP **10** (2020) 156, arXiv:2007.03923.

[389] LHCb collaboration, R. Aaij *et al.*, *First observation of the decay $\Lambda_b^0 \to \eta_c(1S)pK^-$*, Phys. Rev. **D102** (2020) 112012, arXiv:2007.11292.

[390] LHCb collaboration, R. Aaij *et al.*, *Observation of structure in the J/ψ-pair mass spectrum*, Science Bulletin **65** (2020) 1983, arXiv:2006.16957.

[391] LHCb collaboration, R. Aaij *et al.*, *Observation of enhanced double parton scattering in proton-lead collisions at $\sqrt{s_{NN}} = 8.16$ TeV*, Phys. Rev. Lett. **125** (2020) 212001, arXiv:2007.06945.

[392] LHCb collaboration, R. Aaij *et al.*, *Study of the $\psi_2(3823)$ and $\chi_{c1}(3872)$ states in $B^+ \to (J/\psi\pi^+\pi^-)K^+$ decays*, JHEP **08** (2020) 123, arXiv:2005.13422.

[393] LHCb collaboration, R. Aaij *et al.*, *Study of the line shape of the $\chi_{c1}(3872)$ state*, Phys. Rev. **D102** (2020) 092005, arXiv:2005.13419.

[394] LHCb collaboration, R. Aaij *et al.*, *Searches for 25 rare and forbidden decays of D^+ and D_s^+ mesons*, JHEP **06** (2021) 044, arXiv:2011.00217.

[395] LHCb collaboration, R. Aaij *et al.*, *Measurement of branching fraction ratios for $B^+ \to D^{*+}D^-K^+$, $B^+ \to D^{*-}D^+K^+$, and $B^0 \to D^{*-}D^0K^+$ decays*, JHEP **12** (2020) 139, arXiv:2005.10264.

[396] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $\Lambda_b^0 \to J/\psi\Lambda$ angular distribution and the Λ polarisation in pp collisions*, JHEP **06** (2020) 110, arXiv:2004.10563.

[397] LHCb collaboration, R. Aaij *et al.*, *Observation of new Ξ_c^0 baryons decaying to $\Lambda_c^+K^-$*, Phys. Rev. Lett. **124** (2020) 222001, arXiv:2003.13649.

[398] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of the B_c^+ meson mass*, JHEP **07** (2020) 123, arXiv:2004.08163.

[399] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP-averaged observables in the $B^0 \to K^{*0}\mu^+\mu^-$ decay*, Phys. Rev. Lett. **125** (2020) 011802, arXiv:2003.04831.

[400] LHCb collaboration, R. Aaij *et al.*, *Search for the rare decays $B_s^0 \to e^+e^-$ and $B^0 \to e^+e^-$*, Phys. Rev. Lett. **124** (2020) 211802, arXiv:2003.03999.

[401] LHCb collaboration, R. Aaij *et al.*, *Measurement of the shape of the $B_s^0 \to D_s^{*-}\mu^+\nu_\mu$ differential decay rate*, JHEP **12** (2020) 144, arXiv:2003.08453.

[402] LHCb collaboration, R. Aaij *et al.*, *Observation of a new baryon state in the $\Lambda_b^0\pi^+\pi^-$ mass spectrum*, JHEP **06** (2020) 136, arXiv:2002.05112.

[403] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP observables in $B^\pm \to DK^\pm$ and $B^\pm \to D\pi^\pm$ with $D \to K_S^0K^\pm\pi^\mp$ decays*, JHEP **06** (2020) 58, arXiv:2002.08858.

[404] LHCb collaboration, R. Aaij *et al.*, *Search for the lepton flavour violating decay $B^+ \to K^+\mu^-\tau^+$ using B_{s2}^{*0} decays*, JHEP **06** (2020) 129, arXiv:2003.04352.

[405] LHCb collaboration, R. Aaij *et al.*, *First observation of excited Ω_b^- states*, Phys. Rev. Lett. **124** (2020) 082002, arXiv:2001.00851.

[406] LHCb collaboration, R. Aaij *et al.*, *Measurement of $|V_{cb}|$ with $B_s^0 \to D_s^{(*)-}\mu^+\nu$ decays*, Phys. Rev. **D101** (2020) 072004, arXiv:2001.03225.

[407] LHCb collaboration, R. Aaij *et al.*, *Test of lepton universality using $\Lambda_b^0 \to pK^-\ell^+\ell^-$ decays*, JHEP **05** (2020) 040, arXiv:1912.08139.

[408] LHCb collaboration, R. Aaij *et al.*, *Isospin amplitudes in $\Lambda_b^0 \to J/\psi\Lambda(\Sigma^0)$ and $\Xi_b^0 \to J/\psi\Xi^0(\Lambda)$ decays*, Phys. Rev. Lett. **124** (2020) 111802, arXiv:1912.02110.

[409] LHCb collaboration, R. Aaij *et al.*, *Constraints on the $K^0_S \to \mu^+\mu^-$ branching fraction*, Phys. Rev. Lett. **125** (2020) 1231801, arXiv:2001.10354.

[410] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of the Ξ_{cc}^{++} mass*, JHEP **02** (2020) 049, arXiv:1911.08594.

[411] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in $B^0 \to D^{*\pm}D^{\mp}$ decays*, JHEP **03** (2020) 147, arXiv:1912.03723.

[412] LHCb collaboration, R. Aaij *et al.*, *Measurement of Ξ_{cc}^{++} production in pp collisions at $\sqrt{s} = 13$ TeV*, Chin. Phys. **C44** (2020) 022001, arXiv:1910.11316.

[413] LHCb collaboration, R. Aaij *et al.*, *Observation of the semileptonic decay $B^+ \to p\overline{p}\mu^+\nu_\mu$*, JHEP **03** (2020) 146, arXiv:1911.08187.

[414] LHCb collaboration, R. Aaij *et al.*, *Measurement of the B_c^- production fraction and asymmetry in 7 and 13 TeV pp collisions*, Phys. Rev. **D100** (2019) 112006, arXiv:1910.13404.

[415] LHCb collaboration, R. Aaij *et al.*, *Updated measurement of decay-time-dependent CP asymmetries in $D^0 \to K^+K^-$ and $D^0 \to \pi^+\pi^-$ decays*, Phys. Rev. **D101** (2020) 012005, arXiv:1911.01114.

[416] LHCb collaboration, R. Aaij *et al.*, *Search for $A' \to \mu^+\mu^-$ decays*, Phys. Rev. Lett. **124** (2020) 041801, arXiv:1910.06926.

[417] LHCb collaboration, R. Aaij *et al.*, *Measurement of the branching fraction of the decay $B_s^0 \to K^0_S K^0_S$*, Phys. Rev. **D102** (2020) 012011, arXiv:2002.08229.

[418] LHCb collaboration, R. Aaij *et al.*, *Search for the doubly charmed baryon Ξ_{cc}^+*, Sci. China Phys. Mech. Astron. **63** (2020) 221062, arXiv:1909.12273.

[419] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation and observation of P violation in $\Lambda_b^0 \to p\pi^-\pi^+\pi^-$ decays*, Phys. Rev. **D102** (2020) 051101, arXiv:1912.10741.

[420] LHCb collaboration, R. Aaij *et al.*, *Determination of quantum numbers for several excited charmed mesons observed in $B^- \to D^{*+}\pi^-\pi^-$ decays*, Phys. Rev. **D101** (2020) 032005, arXiv:1911.03326.

[421] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in $\Xi_c^+ \to pK^-\pi^+$ decays with model-independent techniques*, Eur. Phys. J. **C80** (2020) 986, arXiv:2006.03145.

[422] LHCb collaboration, R. Aaij *et al.*, *Observation of new resonances in the $\Lambda_b^0\pi^+\pi^-$ system*, Phys. Rev. Lett. **123** (2019) 152001, arXiv:1907.13598.

[423] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $\eta_c(1S)$ production cross-section in pp collisions at $\sqrt{s} = 13$ TeV*, Eur. Phys. J. **C80** (2020) 191, arXiv:1911.03326.

[424] LHCb collaboration, R. Aaij *et al.*, *Observation of the $\Lambda_b^0 \to \chi_{c1}(3872)pK^-$ decay*, JHEP **09** (2019) 028, arXiv:1907.00954.

[425] LHCb collaboration, R. Aaij *et al.*, *Search for the lepton-flavour violating decays $B^+ \to K^+\mu^\pm e^\mp$*, Phys. Rev. Lett. **123** (2019) 231802, arXiv:1909.01010.

[426] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP observables in the process $B^0 \to DK^{*0}$ with two- and four-body D decays*, JHEP **08** (2019) 041, arXiv:1906.08297.

[427] LHCb collaboration, R. Aaij *et al.*, *Measurement of f_s/f_u variation with proton-proton collision energy and B-meson kinematics*, Phys. Rev. Lett. **124** (2020) 122002, arXiv:1910.09934.

[428] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in the $B_s^0 \to \phi\phi$ decay and search for the $B^0 \to \phi\phi$ decay*, JHEP **12** (2019) 155, arXiv:1907.10003.

[429] LHCb collaboration, R. Aaij *et al.*, *Observation of several sources of CP violation in $B^+ \to \pi^+\pi^+\pi^-$ decays*, Phys. Rev. Lett. **124** (2020) 031801, arXiv:1909.05211.

[430] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of the $B^+ \to \pi^+\pi^+\pi^-$ decay*, Phys. Rev. **D101** (2020) 012006, arXiv:1909.05211.

[431] LHCb collaboration, R. Aaij *et al.*, *Search for the lepton-flavour-violating decays $B_s^0 \to \tau^\pm\mu^\mp$ and $B^0 \to \tau^\pm\mu^\mp$*, Phys. Rev. Lett. **123** (2019) 211801, arXiv:1905.06614.

[432] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP-violating and mixing-induced observables in $B_s^0 \to \phi\gamma$ decays*, Phys. Rev. Lett. **123** (2019) 081802, arXiv:1905.06284.

[433] LHCb collaboration, R. Aaij *et al.*, *Observation of a narrow pentaquark state, $P_c(4312)^+$, and of two-peak structure of the $P_c(4450)^+$*, Phys. Rev. Lett. **122** (2019) 222001, arXiv:1904.03947.

[434] LHCb collaboration, R. Aaij *et al.*, *Updated measurement of time-dependent CP-violating observables in $B_s^0 \to J/\psi K^+K^-$ decays*, Eur. Phys. J. **C79** (2019) 706, Erratum ibid. **C80** (2020) 601, arXiv:1906.08356.

[435] LHCb collaboration, R. Aaij *et al.*, *Measurement of charged hadron production in Z-tagged jets in proton-proton collisions at $\sqrt{s} = 8$ TeV*, Phys. Rev. Lett. **123** (2019) 232001, arXiv:1904.08878.

[436] LHCb collaboration, R. Aaij *et al.*, *A search for $\Xi_{cc}^{++} \to D^+pK^-\pi^+$ decays*, JHEP **10** (2019) 124, arXiv:1905.02421.

[437] LHCb collaboration, R. Aaij *et al.*, *First observation of the radiative $\Lambda_b^0 \to \Lambda\gamma$ decay*, Phys. Rev. Lett. **123** (2019) 031801, arXiv:1904.06697.

[438] LHCb collaboration, R. Aaij *et al.*, *Search for lepton-universality violation in $B^+ \to K^+\ell^+\ell^-$ decays*, Phys. Rev. Lett. **122** (2019) 191801, arXiv:1903.09252.

[439] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of the Λ_c^+, Ξ_c^+, and Ξ_c^0 baryon lifetimes*, Phys. Rev. **D100** (2019) 032001, arXiv:1906.08350.

[440] LHCb collaboration, R. Aaij *et al.*, *Observation of an excited B_c^+ state*, Phys. Rev. Lett. **122** (2019) 232001, arXiv:1904.00081.

[441] LHCb collaboration, R. Aaij *et al.*, *Observation of CP violation in charm decays*, Phys. Rev. Lett. **122** (2019) 211803, arXiv:1903.08726.

[442] LHCb collaboration, R. Aaij *et al.*, *Near-threshold $D\overline{D}$ spectroscopy and observation of a new charmonium state*, JHEP **07** (2019) 035, arXiv:1903.12240.

[443] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of the $B^0_{(s)} \to K^{*0}\overline{K}^{*0}$ decays and measurement of the branching fraction of the $B^0 \to K^{*0}\overline{K}^{*0}$ decay*, JHEP **07** (2019) 032, arXiv:1905.06662.

[444] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP-violating phase ϕ_s from $B^0_s \to J/\psi\pi^+\pi^-$ decays in 13 TeV pp collisions*, Phys. Lett. **B797** (2019) 134789, arXiv:1903.05530.

[445] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in $D_s^+ \to K^0_S\pi^+$, $D^+ \to K^0_S K^+$ and $D^+ \to \phi\pi^+$ decays*, Phys. Rev. Lett. **122** (2019) 191803, arXiv:1903.01150.

[446] LHCb collaboration, R. Aaij *et al.*, *Measurement of the mass difference between neutral charm-meson eigenstates*, Phys. Rev. Lett. **122** (2019) 231802, arXiv:1903.03074.

[447] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of $B^\pm \to \pi^\pm K^+K^-$ decays*, Phys. Rev. Lett. **123** (2019) 231802, arXiv:1905.09244.

[448] LHCb collaboration, R. Aaij *et al.*, *Measurement of b-hadron fractions in 13 TeV pp collisions*, Phys. Rev. **D100** (2019) 031102(R), arXiv:1902.06794.

[449] LHCb collaboration, R. Aaij *et al.*, *Measurement of $\psi(2S)$ production cross-sections in proton-proton collisions at $\sqrt{s}=7$ and 13 TeV*, Eur. Phys. J. **C80** (2020) 185, arXiv:1908.03099.

[450] LHCb collaboration, R. Aaij *et al.*, *Measurement of B^+, B^0 and Λ_b^0 production in pPb collisions at $\sqrt{s_{NN}}=8.16$ TeV*, Phys. Rev. **D99** (2019) 052011, arXiv:1902.05599.

[451] LHCb collaboration, R. Aaij *et al.*, *Measurement of the mass and production rate of Ξ_b^- baryons*, Phys. Rev. **D99** (2019) 052006, arXiv:1901.07075.

[452] LHCb collaboration, R. Aaij *et al.*, *Observation of $B^0_{(s)} \to J/\psi p\overline{p}$ decays and precision measurements of the $B^0_{(s)}$ masses*, Phys. Rev. Lett. **122** (2019) 191804, arXiv:1902.05588.

[453] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of $B^0_s \to K^0_S K^\pm\pi^\mp$ decays*, JHEP **06** (2019) 114, arXiv:1902.07955.

[454] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetries in charmless four-body Λ_b^0 and Ξ_b^0 decays*, Eur. Phys. J. **C79** (2019) 745, arXiv:1903.06792.

[455] LHCb collaboration, R. Aaij *et al.*, *Model-independent observation of exotic contributions to $B^0 \to J/\psi K^+\pi^-$ decays*, Phys. Rev. Lett. **122** (2019) 152002, arXiv:1901.05745.

[456] LHCb collaboration, R. Aaij *et al.*, *Study of the $B^0 \to \rho(770)^0 K^*(892)^0$ decay with an amplitude analysis of $B^0 \to (\pi^+\pi^-)(K^+\pi^-)$ decays*, JHEP **05** (2019) 026, arXiv:1812.07008.

[457] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation through an amplitude analysis of $D^0 \to K^+K^-\pi^+\pi^-$ decays*, JHEP **02** (2019) 126, arXiv:1811.08304.

[458] LHCb collaboration, R. Aaij *et al.*, *Observation of the doubly Cabibbo-suppressed decay $\Xi_c^+ \to p\phi$*, JHEP **04** (2019) 084, arXiv:1901.06222.

[459] LHCb collaboration, R. Aaij *et al.*, *Dalitz plot analysis of the decay $D^+ \to K^-K^+K^+$*, JHEP **04** (2019) 063, arXiv:1902.05884.

[460] LHCb collaboration, R. Aaij *et al.*, *Measurement of the charm-mixing parameter y_{CP}*, Phys. Rev. Lett. **122** (2019) 011802, arXiv:1810.06874.

[461] LHCb collaboration, R. Aaij *et al.*, *Search for the rare decay $B^+ \to \mu^+\mu^-\mu^+\nu_\mu$*, Eur. Phys. J. **C79** (2019) 675, arXiv:1812.06004.

[462] LHCb collaboration, R. Aaij *et al.*, *Measurement of the branching fraction and CP asymmetry in $B^+ \to J/\psi\rho^+$ decays*, Eur. Phys. J. **C79** (2019) 537, arXiv:1812.07041.

[463] LHCb collaboration, R. Aaij *et al.*, *Study of Υ production in pPb collisions at $\sqrt{s_{NN}}$=8.16 TeV*, JHEP **11** (2018) 194, arXiv:1810.07655.

[464] LHCb collaboration, R. Aaij *et al.*, *Evidence for an $\eta_c(1S)\pi^-$ resonance in $B^0 \to \eta_c(1S)K^+\pi^-$ decays*, Eur. Phys. J. **C78** (2018) 1019, arXiv:1809.07416.

[465] LHCb collaboration, R. Aaij *et al.*, *Measurement of the branching fractions of the decays $D^+ \to K^-K^+K^+$, $D^+ \to \pi^-\pi^+K^+$ and $D_s^+ \to \pi^-K^+K^+$*, JHEP **03** (2019) 176, arXiv:1810.03138.

[466] LHCb collaboration, R. Aaij *et al.*, *Observation of two resonances in the $\Lambda_b^0\pi^\pm$ systems and precise measurement of $\Sigma_b^\pm$ and $\Sigma_b^{*\pm}$ properties*, Phys. Rev. Lett. **122** (2019) 012001, arXiv:1809.07752.

[467] LHCb collaboration, R. Aaij *et al.*, *Measurement of antiproton production in pHe collisions at $\sqrt{s_{NN}} = 110$ GeV*, Phys. Rev. Lett. **121** (2018) 222001, arXiv:1808.06127.

[468] LHCb collaboration, R. Aaij *et al.*, *Search for lepton-flavour-violating decays of Higgs-like bosons*, Eur. Phys. J. **C78** (2018) 1008, arXiv:1808.07135.

[469] LHCb collaboration, R. Aaij *et al.*, *Angular moments of the decay $\Lambda_b^0 \to \Lambda\mu^+\mu^-$ at low hadronic recoil*, JHEP **09** (2018) 146, arXiv:1808.00264.

[470] LHCb collaboration, R. Aaij *et al.*, *Measurement of the Ω_c^0 lifetime*, Phys. Rev. Lett. **121** (2018) 092003, arXiv:1807.02024.

[471] LHCb collaboration, R. Aaij *et al.*, *Search for beautiful tetraquarks in the $\Upsilon(1S)\mu^+\mu^-$ invariant-mass spectrum*, JHEP **10** (2018) 086, arXiv:1806.09707.

[472] LHCb collaboration, R. Aaij *et al.*, *First observation of the doubly charmed baryon decay $\Xi_{cc}^{++} \to \Xi_c^+\pi^+$*, Phys. Rev. Lett. **121** (2018) 162002, arXiv:1807.01919.

[473] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in $\Lambda_b^0 \to pK^-$ and $\Lambda_b^0 \to p\pi^-$ decays*, Phys. Lett. **B784** (2018) 101, arXiv:1807.06544.

[474] LHCb collaboration, R. Aaij *et al.*, *Measurement of the relative $B^- \to D^0/D^{*0}/D^{**0}\mu^-\overline{\nu}_\mu$ branching fractions using B^- mesons from $\overline{B}_{s2}^{*0}$ decays*, Phys. Rev. **D99** (2019) 092009, arXiv:1807.10722.

[475] LHCb collaboration, R. Aaij *et al.*, *First measurement of charm production in fixed-target configuration at the LHC*, Phys. Rev. Lett. **122** (2019) 132002, arXiv:1810.07907.

[476] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $\Lambda_b^0 \to \psi(2S)p\pi^-$*, JHEP **08** (2018) 131, arXiv:1806.08084.

[477] LHCb collaboration, R. Aaij *et al.*, *Prompt Λ_c^+ production in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV*, JHEP **02** (2019) 102, arXiv:1809.01404.

[478] LHCb collaboration, R. Aaij *et al.*, *Measurement of angular and CP asymmetries in $D^0 \to \pi^+\pi^-\mu^+\mu^-$ and $D^0 \to K^+K^-\mu^+\mu^-$ decays*, Phys. Rev. Lett. **121** (2018) 091801, arXiv:1806.10793.

[479] LHCb collaboration, R. Aaij *et al.*, *Measurement of the lifetime of the doubly charmed baryon Ξ_{cc}^{++}*, Phys. Rev. Lett. **121** (2018) 052002, arXiv:1806.02744.

[480] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $\overline{B}_s^0 \to \chi_{c2}K^+K^-$*, JHEP **08** (2018) 191, arXiv:1806.10576.

[481] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CKM angle γ using $B^\pm \to DK^\pm$ with $D \to K_S^0\pi^+\pi^-$, $K_S^0K^+K^-$ decays*, JHEP **08** (2018) 176, Erratum ibid. **10** (2018) 107, arXiv:1806.01202.

[482] LHCb collaboration, R. Aaij *et al.*, *Measurement of $Z \to \tau^+\tau^-$ production in proton-proton collisions at $\sqrt{s} = 8$ TeV*, JHEP **09** (2018) 159, arXiv:1806.05008.

[483] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $B_s^0 \to \overline{D}^{*0}\phi$ and search for the mode $B^0 \to \overline{D}^0\phi$*, Phys. Rev. **D98** (2018) 071103(R), arXiv:1807.01892.

[484] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $B_s^0 \to \overline{D}^0K^+K^-$*, Phys. Rev. **D98** (2018) 072006, arXiv:1807.01891.

[485] LHCb collaboration, R. Aaij *et al.*, *Observation of a new Ξ_b^- resonance*, Phys. Rev. Lett. **121** (2018) 072002, arXiv:1805.09418.

[486] LHCb collaboration, R. Aaij *et al.*, *Measurement of the time-integrated CP asymmetry in $D^0 \to K^0_S K^0_S$ decays*, JHEP **11** (2018) 048, arXiv:1806.01642.

[487] LHCb collaboration, R. Aaij *et al.*, *Central exclusive production of J/ψ and $\psi(2S)$ mesons in pp collisions at $\sqrt{s} = 13$ TeV*, JHEP **10** (2018) 167, arXiv:1806.04079.

[488] LHCb collaboration, R. Aaij *et al.*, *Measurement of $D_s^\pm$ production asymmetry in pp collisions at $\sqrt{s} = 7$ and 8 TeV*, JHEP **08** (2018) 008, arXiv:1805.09869.

[489] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in $B^0 \to D^\pm \pi^\mp$ decays*, JHEP **06** (2018) 084, arXiv:1805.03448.

[490] LHCb collaboration, R. Aaij *et al.*, *Search for a dimuon resonance in the Υ mass region*, JHEP **09** (2018) 147, arXiv:1805.09820.

[491] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP asymmetry in $B^- \to D_s^- D^0$ and $B^- \to D^- D^0$ decays*, JHEP **05** (2018) 160, arXiv:1803.10990.

[492] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetries in two-body $B^0_{(s)}$-meson decays to charged pions and kaons*, Phys. Rev. **D98** (2018) 032004, arXiv:1805.06759.

[493] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $\Lambda_b^0 \to \Lambda_c^+ p\bar{p}\pi^-$*, Phys. Lett. **B784** (2018) 101, arXiv:1804.09617.

[494] LHCb collaboration, R. Aaij *et al.*, *Evidence for the decay $B_s^0 \to \overline{K}^{*0}\mu^+\mu^-$*, JHEP **07** (2018) 020, arXiv:1804.07167.

[495] LHCb collaboration, R. Aaij *et al.*, *Measurement of the inelastic pp cross-section at a centre-of-mass energy of $\sqrt{s} = 13$ TeV*, JHEP **06** (2018) 100, arXiv:1803.10974.

[496] LHCb collaboration, R. Aaij *et al.*, *Measurement of Υ production cross-section in pp collisions at $\sqrt{s} = 13$ TeV*, JHEP **07** (2018) 134, arXiv:1804.09214.

[497] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation using triple product asymmetries in $\Lambda_b^0 \to pK^-\pi^+\pi^-$, $\Lambda_b^0 \to pK^-K^+K^-$, and $\Xi_b^0 \to pK^-K^-\pi^+$ decays*, JHEP **08** (2018) 039, arXiv:1805.03941.

[498] LHCb collaboration, R. Aaij *et al.*, *Measurement of forward top pair production in the dilepton channel in pp collisions at $\sqrt{s} = 13$ TeV*, JHEP **08** (2018) 174, arXiv:1803.05188.

[499] LHCb collaboration, R. Aaij *et al.*, *Evidence for the rare decay $\Sigma^+ \to p\mu^+\mu^-$*, Phys. Rev. Lett. **120** (2018) 221803, arXiv:1712.08606.

[500] LHCb collaboration, R. Aaij *et al.*, *First measurement of the CP-violating phase $\phi_s^{d\bar{d}}$ in $B_s^0 \to (K^+\pi^-)(K^-\pi^+)$ decays*, JHEP **03** (2018) 140, arXiv:1712.08683.

[501] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetry in $B_s^0 \to D_s^\mp K^\pm$ decays*, JHEP **03** (2018) 059, arXiv:1712.07428.

[502] LHCb collaboration, R. Aaij *et al.*, *Updated determination of D^0–$\overline{D}^0$ mixing and CP violation parameters with $D^0 \to K^+\pi^-$ decays*, Phys. Rev. **D97** (2018) 031101, arXiv:1712.03220.

[503] LHCb collaboration, R. Aaij *et al.*, *Search for B_c^+ decays to two charm mesons*, Nucl. Phys. **B930** (2018) 563, arXiv:1712.04702.

[504] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in $\Lambda_c^+ \to pK^-K^+$ and $\Lambda_c^+ \to p\pi^-\pi^+$ decays*, JHEP **03** (2018) 182, arXiv:1712.07051.

[505] LHCb collaboration, R. Aaij *et al.*, *Search for weakly decaying b-flavored pentaquarks*, Phys. Rev. **D97** (2018) 032010, arXiv:1712.08086.

[506] LHCb collaboration, R. Aaij *et al.*, *Search for excited B_c^+ states*, JHEP **01** (2018) 138, arXiv:1712.04094.

[507] LHCb collaboration, R. Aaij *et al.*, *Measurement of the ratio of branching fractions of the decays $\Lambda_b^0 \to \psi(2S)\Lambda$ and $\Lambda_b^0 \to J/\psi\Lambda$*, JHEP **03** (2019) 126, arXiv:1902.02092.

[508] LHCb collaboration, R. Aaij *et al.*, *Studies of the resonance structure in $D^0 \to K^\mp\pi^\pm\pi^+\pi^-$ decays*, Eur. Phys. J. **C78** (2018) 443, arXiv:1712.08609.

[509] LHCb collaboration, R. Aaij *et al.*, *Search for the rare decay $\Lambda_c^+ \to p\mu^+\mu^-$*, Phys. Rev. **D97** (2018) 091101, arXiv:1712.07938.

[510] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $B^\pm$ production cross-section in pp collisions at $\sqrt{s} = 7$ and 13 TeV*, JHEP **12** (2017) 026, arXiv:1710.04921.

[511] LHCb collaboration, R. Aaij *et al.*, *χ_{c1} and χ_{c2} resonance parameters with the decays $\chi_{c1,c2} \to J/\psi\mu^+\mu^-$*, Phys. Rev. Lett. **119** (2017) 221801, arXiv:1709.04247.

[512] LHCb collaboration, R. Aaij *et al.*, *Measurement of the ratio of branching fractions $\mathcal{B}(B_c^+ \to J/\psi\tau^+\nu_\tau)/\mathcal{B}(B_c^+ \to J/\psi\mu^+\nu_\mu)$*, Phys. Rev. Lett. **120** (2018) 121801, arXiv:1711.05623.

[513] LHCb collaboration, R. Aaij *et al.*, *Measurement of branching fractions of charmless four-body Λ_b^0 and Ξ_b^0 decays*, JHEP **02** (2018) 098, arXiv:1711.05490.

[514] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of the decay $\overline{B}^0 \to K_S^0\pi^+\pi^-$ and first observation of CP asymmetry in $\overline{B}^0 \to K^*(892)^-\pi^+$*, Phys. Rev. Lett. **120** (2018) 261801, arXiv:1712.09320.

[515] LHCb collaboration, R. Aaij *et al.*, *First observation of $B^+ \to D_s^+K^+K^-$ decays and a search for $B^+ \to D_s^+\phi$ decays*, JHEP **01** (2018) 131, arXiv:1711.05637.

[516] LHCb collaboration, R. Aaij *et al.*, *Search for the lepton-flavour violating decays $B^0_{(s)} \to e^\pm\mu^\mp$*, JHEP **03** (2018) 078, arXiv:1710.04111.

[517] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP observables in $B^\pm \to DK^{*\pm}$ decays using two- and four-body D-meson final states*, JHEP **11** (2017) 156, Erratum ibid. **05** (2018) 067, arXiv:1709.05855.

[518] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in $B^0 \to J/\psi K^0_S$ and $B^0 \to \psi(2S)K^0_S$ decays*, JHEP **11** (2017) 170, arXiv:1709.03944.

[519] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $\Upsilon(nS)$ polarizations in pp collisions at $\sqrt{s} = 7$ and 8 TeV*, JHEP **12** (2017) 110, arXiv:1709.01301.

[520] LHCb collaboration, R. Aaij *et al.*, *Test of lepton flavor universality by the measurement of the $B^0 \to D^{*-}\tau^+\nu_\tau$ branching fraction using three-prong τ decays*, Phys. Rev. **D97** (2018) 072013, arXiv:1711.02505.

[521] LHCb collaboration, R. Aaij *et al.*, *Measurements of the branching fractions of $\Lambda_c^+ \to p\pi^-\pi^+$, $\Lambda_c^+ \to pK^-K^+$, and $\Lambda_c^+ \to p\pi^-K^+$*, JHEP **03** (2018) 043, arXiv:1711.01157.

[522] LHCb collaboration, R. Aaij *et al.*, *Bose–Einstein correlations of same-sign charged pions in the forward region in pp collisions at $\sqrt{s} = 7$ TeV*, JHEP **12** (2017) 025, arXiv:1709.01769.

[523] LHCb collaboration, R. Aaij *et al.*, *First observation of forward $Z \to b\bar{b}$ production in pp collisions at $\sqrt{s} = 8$ TeV*, Phys. Lett. **B776** (2018) 430, arXiv:1709.03458.

[524] LHCb collaboration, R. Aaij *et al.*, *Search for baryon-number-violating Ξ_b^0 oscillations*, Phys. Rev. Lett. **119** (2017) 181807, arXiv:1708.05808.

[525] LHCb collaboration, R. Aaij *et al.*, *First observation of the rare purely baryonic decay $B^0 \to p\bar{p}$*, Phys. Rev. Lett. **119** (2017) 232001, arXiv:1709.01156.

[526] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP observables in $B^\pm \to D^{(*)}K^\pm$ and $B^\pm \to D^{(*)}\pi^\pm$ decays*, Phys. Lett. **B777** (2018) 16, arXiv:1708.06370.

[527] LHCb collaboration, R. Aaij *et al.*, *Study of $b\bar{b}$ correlations in high energy proton-proton collisions*, JHEP **11** (2017) 030, arXiv:1708.05994.

[528] LHCb collaboration, R. Aaij *et al.*, *Observation of D^0 meson decays to $\pi^+\pi^-\mu^+\mu^-$ and $K^+K^-\mu^+\mu^-$ final states*, Phys. Rev. Lett. **119** (2017) 181805, arXiv:1707.08377.

[529] LHCb collaboration, R. Aaij *et al.*, *Observation of the doubly charmed baryon Ξ_{cc}^{++}*, Phys. Rev. Lett. **119** (2017) 112001, arXiv:1707.01621.

[530] LHCb collaboration, R. Aaij *et al.*, *Measurement of the ratio of the $\mathcal{B}(B^0 \to D^{*-}\tau^+\nu_\tau)$ and $\mathcal{B}(B^0 \to D^{*-}\mu^+\nu_\mu)$ branching fractions using three-prong τ-lepton decays*, Phys. Rev. Lett. **120** (2018) 171802, arXiv:1708.08856.

[531] LHCb collaboration, R. Aaij *et al.*, *Measurement of the shape of the $\Lambda_b^0 \to \Lambda_c^+\mu^-\bar{\nu}_\mu$ differential decay rate*, Phys. Rev. **D96** (2017) 112005, arXiv:1709.01920.

[532] LHCb collaboration, R. Aaij *et al.*, *Study of prompt D^0 meson production in pPb collisions at $\sqrt{s_{NN}}=5$ TeV*, JHEP **10** (2017) 090, arXiv:1707.02750.

[533] LHCb collaboration, R. Aaij *et al.*, *Prompt and nonprompt J/ψ production and nuclear modification in pPb collisions at $\sqrt{s_{NN}}=8.16$ TeV*, Phys. Lett. **B774** (2017) 159, arXiv:1706.07122.

[534] LHCb collaboration, R. Aaij *et al.*, *Test of lepton universality with $B^0 \to K^{*0}\ell^+\ell^-$ decays*, JHEP **08** (2017) 055, arXiv:1705.05802.

[535] LHCb collaboration, R. Aaij *et al.*, *First observation of a baryonic B_s^0 decay*, Phys. Rev. Lett. **119** (2017) 041802, arXiv:1704.07908.

[536] LHCb collaboration, R. Aaij *et al.*, *Observation of the decays $\Lambda_b^0 \to \chi_{c1} pK^-$ and $\Lambda_b^0 \to \chi_{c2} pK^-$*, Phys. Rev. Lett. **119** (2017) 062001, arXiv:1704.07900.

[537] LHCb collaboration, R. Aaij *et al.*, *Updated branching fraction measurements of $B^0_{(s)} \to K^0_S h^+ h'^-$ decays*, JHEP **11** (2017) 027, arXiv:1707.01665.

[538] LHCb collaboration, R. Aaij *et al.*, *Improved limit on the branching fraction of the rare decay $K^0_S \to \mu\mu$*, Eur. Phys. J. **C77** (2017) 678, arXiv:1706.00758.

[539] LHCb collaboration, R. Aaij *et al.*, *Resonances and CP-violation in B_s^0 and $\overline{B}{}_s^0 \to J/\psi K^+K^-$ decays in the mass region above the $\phi(1020)$*, JHEP **08** (2017) 037, arXiv:1704.08217.

[540] LHCb collaboration, R. Aaij *et al.*, *Study of charmonium production in b-hadron decays and first evidence for the decay $B_s^0 \to \phi\phi\phi$*, Eur. Phys. J. **C77** (2017) 609, arXiv:1706.07013.

[541] LHCb collaboration, R. Aaij *et al.*, *Observation of the $B^+ \to D^{*-}K^+\pi^+$ decay*, Phys. Rev. **D96** (2017) 011101, arXiv:1704.07581.

[542] LHCb collaboration, R. Aaij *et al.*, *Observation of charmless baryonic decays $B^0_{(s)} \to p\overline{p}h^+h'^-$*, Phys. Rev. **D96** (2017) 051103, arXiv:1704.08497.

[543] LHCb collaboration, R. Aaij *et al.*, *Measurement of B_s^0 and D_s^- meson lifetimes*, Phys. Rev. Lett. **119** (2017) 101801, arXiv:1705.03475.

[544] LHCb collaboration, R. Aaij *et al.*, *Search for the decays $B_s^0 \to \tau^+\tau^-$ and $B^0 \to \tau^+\tau^-$*, Phys. Rev. Lett. **118** (2017) 251802, arXiv:1703.02508.

[545] LHCb collaboration, R. Aaij *et al.*, *Observation of five new narrow Ω_c^0 states decaying to $\Xi_c^+K^-$*, Phys. Rev. Lett. **118** (2017) 182001, arXiv:1703.04639.

[546] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $B_s^0 \to \mu^+\mu^-$ branching fraction and effective lifetime and search for $B^0 \to \mu^+\mu^-$ decays*, Phys. Rev. Lett. **118** (2017) 191801, arXiv:1703.05747.

[547] LHCb collaboration, R. Aaij *et al.*, *Updated search for long-lived particles decaying to jet pairs*, Eur. Phys. J. **C77** (2017) 812, arXiv:1705.07332.

[548] LHCb collaboration, R. Aaij *et al.*, *Study of J/ψ production in jets*, Phys. Rev. Lett. **118** (2017) 192001, arXiv:1701.05116.

[549] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP violation parameter A_Γ in $D^0 \to K^+K^-$ and $D^0 \to \pi^+\pi^-$ decays*, Phys. Rev. Lett. **118** (2017) 261803, arXiv:1702.06490.

[550] LHCb collaboration, R. Aaij *et al.*, *Measurement of B^0, B^0_s, B^+ and Λ^0_b production asymmetries in 7 and 8 TeV proton-proton collisions*, Phys. Lett. **B774** (2017) 139, arXiv:1703.08464.

[551] LHCb collaboration, R. Aaij *et al.*, *Study of the D^0p amplitude in $\Lambda^0_b \to D^0p\pi^-$ decays*, JHEP **05** (2017) 030, arXiv:1701.07873.

[552] LHCb collaboration, R. Aaij *et al.*, *Search for the $B^0_s \to \eta'\phi$ decay*, JHEP **05** (2017) 158, arXiv:1612.08110.

[553] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $\Lambda^0_b \to pK^-\mu^+\mu^-$ and search for CP violation*, JHEP **06** (2017) 108, arXiv:1703.00256.

[554] LHCb collaboration, R. Aaij *et al.*, *Observation of $B^+_c \to D^0K^+$ decays*, Phys. Rev. Lett. **118** (2017) 111803, arXiv:1701.01856.

[555] LHCb collaboration, R. Aaij *et al.*, *Measurement of the J/ψ pair production cross-section in pp collisions at $\sqrt{s} = 13$ TeV*, JHEP **06** (2017) 047, Erratum ibid. **10** (2017) 068, arXiv:1612.07451.

[556] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $B^0_s \to \eta_c\phi$ and evidence for $B^0_s \to \eta_c\pi^+\pi^-$*, JHEP **07** (2017) 21, arXiv:1702.08048.

[557] LHCb collaboration, R. Aaij *et al.*, *Observation of $B^+_c \to J/\psi D^{(*)}K^{(*)}$ decays*, Phys. Rev. **D95** (2017) 032005, arXiv:1612.07421.

[558] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $B^\pm$ production asymmetry and the CP asymmetry in $B^\pm \to J/\psi K^\pm$ decays*, Phys. Rev. **D95** (2017) 052005, arXiv:1701.05501.

[559] LHCb collaboration, R. Aaij *et al.*, *Observation of the $\Xi^-_b \to J/\psi\Lambda K^-$ decay*, Phys. Lett. **B772** (2017) 265, arXiv:1701.05274.

[560] LHCb collaboration, R. Aaij *et al.*, *Search for long-lived scalar particles in $B^+ \to K^+\chi(\mu^+\mu^-)$ decays*, Phys. Rev. **D95** (2017) 071101, arXiv:1612.07818.

[561] LHCb collaboration, R. Aaij *et al.*, *Measurement of the ratio of branching fractions and difference in CP asymmetries of the decays $B^+ \to J/\psi\pi^+$ and $B^+ \to J/\psi K^+$*, JHEP **03** (2017) 036, arXiv:1612.06116.

[562] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $\Xi^-_b \to pK^-K^-$*, Phys. Rev. Lett. **118** (2017) 071801, arXiv:1612.02244.

[563] LHCb collaboration, R. Aaij *et al.*, *Observation of the suppressed decay $\Lambda^0_b \to p\pi^-\mu^+\mu^-$*, JHEP **04** (2017) 029, arXiv:1701.08705.

[564] LHCb collaboration, R. Aaij *et al.*, *Evidence for the two-body charmless baryonic decay $B^+ \to p\bar{\Lambda}$*, JHEP **04** (2017) 162, arXiv:1611.07805.

[565] LHCb collaboration, R. Aaij *et al.*, *Search for massive long-lived particles decaying semileptonically in the LHCb detector*, Eur. Phys. J. **C77** (2017) 224, arXiv:1612.00945.

[566] LHCb collaboration, R. Aaij *et al.*, *Search for the CP-violating strong decays $\eta \to \pi^+\pi^-$ and $\eta'(958) \to \pi^+\pi^-$*, Phys. Lett. **B764** (2017) 233, arXiv:1610.03666.

[567] LHCb collaboration, R. Aaij *et al.*, *Measurement of the phase difference between the short- and long-distance amplitudes in the $B^+ \to K^+\mu^+\mu^-$ decay*, Eur. Phys. J. **C77** (2017) 161, arXiv:1612.06764.

[568] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in the phase space of $D^0 \to \pi^+\pi^-\pi^+\pi^-$ decays*, Phys. Lett. **B769** (2017) 345, arXiv:1612.03207.

[569] LHCb collaboration, R. Aaij *et al.*, *Search for decays of neutral beauty mesons into four muons*, JHEP **03** (2017) 001, arXiv:1611.07704.

[570] LHCb collaboration, R. Aaij *et al.*, *Measurements of prompt charm production cross-sections in pp collisions at $\sqrt{s} = 5$ TeV*, JHEP **06** (2017) 147, arXiv:1610.02230.

[571] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetries in $D^\pm \to \eta'\pi^\pm$ and $D_s^\pm \to \eta'\pi^\pm$ decays*, Phys. Lett. **B771** (2017) 21, arXiv:1701.01871.

[572] LHCb collaboration, R. Aaij *et al.*, *Observation of $B^+ \to J/\psi 3\pi^+ 2\pi^-$ and $B^+ \to \psi(2S)\pi^+\pi^+\pi^-$ decays*, Eur. Phys. J. **C77** (2017) 72, arXiv:1610.01383.

[573] LHCb collaboration, R. Aaij *et al.*, *Measurement of forward $t\bar{t}$, $W + b\bar{b}$ and $W + c\bar{c}$ production in pp collisions at $\sqrt{s} = 8$ TeV*, Phys. Lett. **B767** (2017) 110, arXiv:1610.08142.

[574] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in $B \to D^+D^-$ decays*, Phys. Rev. Lett. **117** (2016) 261801, arXiv:1608.06620.

[575] LHCb collaboration, R. Aaij *et al.*, *Observation of the annihilation decay mode $B^0 \to K^+K^-$*, Phys. Rev. Lett. **118** (2017) 081801, arXiv:1610.08288.

[576] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetry in $D^0 \to K^-K^+$ decays*, Phys. Lett. **B767** (2017) 177, arXiv:1610.09476.

[577] LHCb collaboration, R. Aaij *et al.*, *First experimental study of photon polarization in radiative B_s^0 decays*, Phys. Rev. Lett. **118** (2017) 021801, arXiv:1609.02032.

[578] LHCb collaboration, R. Aaij *et al.*, *Measurements of charm mixing and CP violation using $D^0 \to K^\pm\pi^\mp$ decays*, Phys. Rev. **D95** (2017) 052004, Erratum ibid. **D96** (2017) 099907, arXiv:1611.06143.

[579] LHCb collaboration, R. Aaij *et al.*, *Measurement of the b-quark production cross-section in 7 and 13 TeV pp collisions*, Phys. Rev. Lett. **118** (2017) 052002, Erratum ibid. **119** (2017) 169901, arXiv:1612.05140.

[580] LHCb collaboration, R. Aaij *et al.*, *Measurement of matter-antimatter differences in beauty baryon decays*, Nature Physics **13** (2017) 391, arXiv:1609.05216.

[581] LHCb collaboration, R. Aaij *et al.*, *Search for structure in the $B_s^0\pi^\pm$ invariant mass spectrum*, Phys. Rev. Lett. **117** (2016) 152003, arXiv:1608.00435.

[582] LHCb collaboration, R. Aaij *et al.*, *Observation of the decays $B_s^0\to\phi\pi^+\pi^-$ and $B^0\to\phi\pi^+\pi^-$*, Phys. Rev. **D95** (2017) 012006, arXiv:1610.05187.

[583] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP violating phase and decay-width difference in $B_s^0\to\psi(2S)\phi$ decays*, Phys. Lett. **B762** (2016) 253, arXiv:1608.04855.

[584] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of $B^-\to D^+\pi^-\pi^-$ decays*, Phys. Rev. **D94** (2016) 072001, arXiv:1608.01289.

[585] LHCb collaboration, R. Aaij *et al.*, *Differential branching fraction and angular analysis of the decay $B^0\to K^+\pi^-\mu^+\mu^-$ in the $K^*_{0,2}(1430)^0$ region*, JHEP **12** (2016) 065, arXiv:1609.04736.

[586] LHCb collaboration, R. Aaij *et al.*, *Measurement of forward $W\to e\nu$ production in pp collisions at $\sqrt{s}=8$ TeV*, JHEP **10** (2016) 030, arXiv:1608.01484.

[587] LHCb collaboration, R. Aaij *et al.*, *Search for the suppressed decays $B^+\to K^+K^+\pi^-$ and $B^+\to\pi^+\pi^+K^-$*, Phys. Lett. **B765** (2017) 307, arXiv:1608.01478.

[588] LHCb collaboration, R. Aaij *et al.*, *Study of B_c^+ decays to the $K^+K^-\pi^+$ final state and evidence for the decay $B_c^+\to\chi_{c0}\pi^+$*, Phys. Rev. **D94** (2016) 091102(R), arXiv:1607.06134.

[589] LHCb collaboration, R. Aaij *et al.*, *Measurement of the forward Z boson production cross-section in pp collisions at $\sqrt{s}=13$ TeV*, JHEP **09** (2016) 136, arXiv:1607.06495.

[590] LHCb collaboration, R. Aaij *et al.*, *Measurement of the ratio of branching fractions $\mathcal{B}(B_c^+\to J/\psi K^+)/\mathcal{B}(B_c^+\to J/\psi\pi^+)$*, JHEP **09** (2016) 153, arXiv:1607.06823.

[591] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of $B^+\to J/\psi\phi K^+$ decays*, Phys. Rev. **D95** (2017) 012002, arXiv:1606.07898.

[592] LHCb collaboration, R. Aaij *et al.*, *Observation of exotic $J/\psi\phi$ structures from amplitude analysis of $B^+\to J/\psi\phi K^+$ decays*, Phys. Rev. Lett. **118** (2017) 022003, arXiv:1606.07895.

[593] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $B_s^0\to J/\psi\eta$ lifetime*, Phys. Lett. **B762** (2016) 484, arXiv:1607.06314.

[594] LHCb collaboration, R. Aaij *et al.*, *Observation of $\eta_c(2S)\to p\overline{p}$ and search for $X(3872)\to p\overline{p}$ decays*, Phys. Lett. **B769** (2017) 305, arXiv:1607.06446.

[595] LHCb collaboration, R. Aaij *et al.*, *Evidence for exotic hadron contributions to $\Lambda_b^0 \to J/\psi p\pi^-$ decays*, Phys. Rev. Lett. **117** (2016) 082003, arXiv:1606.06999.

[596] LHCb collaboration, R. Aaij *et al.*, *Search for Higgs-like boson decaying into pair of long-lived particles*, Eur. Phys. J. **C76** (2016) 664, arXiv:1609.03124.

[597] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP asymmetry in B_s^0–$\overline{B}_s^0$ mixing*, Phys. Rev. Lett. **117** (2016) 061803, arXiv:1605.09768.

[598] LHCb collaboration, R. Aaij *et al.*, *Measurements of the S-wave fraction in $B^0 \to K^+\pi^-\mu^+\mu^-$ decays and the $B^0 \to K^*(892)^0\mu^+\mu^-$ differential branching fraction*, JHEP **11** (2016) 047, Erratum ibid. **04** (2017) 142, arXiv:1606.04731.

[599] LHCb collaboration, R. Aaij *et al.*, *Measurement of forward W and Z boson production in association with jets in proton-proton collisions at $\sqrt{s}=8$ TeV*, JHEP **05** (2016) 131, arXiv:1605.00951.

[600] LHCb collaboration, R. Aaij *et al.*, *Measurement of the properties of the Ξ_b^{*0} baryon*, JHEP **05** (2016) 161, arXiv:1604.03896.

[601] LHCb collaboration, R. Aaij *et al.*, *Model-independent evidence for $J/\psi p$ contributions to $\Lambda_b^0 \to J/\psi pK^-$ decays*, Phys. Rev. Lett. **117** (2016) 082002, arXiv:1604.05708.

[602] LHCb collaboration, R. Aaij *et al.*, *Measurements of the mass and lifetime of the Ω_b^- baryon*, Phys. Rev. **D93** (2016) 092007, arXiv:1604.01412.

[603] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CKM angle γ using $B^0 \to DK^{*0}$ with $D \to K_S^0\pi^+\pi^-$ decays*, JHEP **08** (2016) 137, arXiv:1605.01082.

[604] LHCb collaboration, R. Aaij *et al.*, *Model-independent measurement of the CKM angle γ using $B^0 \to DK^{*0}$ decays with $D \to K_S^0\pi^+\pi^-$ and $K_S^0K^+K^-$*, JHEP **06** (2016) 131, arXiv:1604.01525.

[605] LHCb collaboration, R. Aaij *et al.*, *Search for violations of Lorentz invariance and CPT symmetry in $B^0_{(s)}$ mixing*, Phys. Rev. Lett. **116** (2016) 241601, arXiv:1603.04804.

[606] LHCb collaboration, R. Aaij *et al.*, *Observations of $\Lambda_b^0 \to \Lambda K^+\pi^-$ and $\Lambda_b^0 \to \Lambda K^+K^-$ decays and searches for other Λ_b^0 and Ξ_b^0 decays to Λh^+h^- final states*, JHEP **05** (2016) 081, arXiv:1603.00413.

[607] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP observables in $B^\pm \to DK^\pm$ and $B^\pm \to D\pi^\pm$ with two- and four-body D decays*, Phys. Lett. **B760** (2016) 117, arXiv:1603.08993.

[608] LHCb collaboration, R. Aaij *et al.*, *Observation of the $\Lambda_b^0 \to \Lambda\phi$ decay*, Phys. Lett. **B759** (2016) 282, arXiv:1603.02870.

[609] LHCb collaboration, R. Aaij *et al.*, *Search for B_c^+ decays to the $p\overline{p}\pi^+$ final state*, Phys. Lett. **B759** (2016) 313, arXiv:1603.07037.

[610] LHCb collaboration, R. Aaij *et al.*, *Observation of $\Lambda_b^0 \to \psi(2S)pK^-$ and $\Lambda_b^0 \to J/\psi\pi^+\pi^-pK^-$ decays and a measurement of the Λ_b^0 baryon mass*, JHEP **05** (2016) 132, arXiv:1603.06961.

[611] LHCb collaboration, R. Aaij *et al.*, *Constraints on the unitarity triangle angle γ from Dalitz plot analysis of $B^0 \to DK^+\pi^-$ decays*, Phys. Rev. **D93** (2016) 112018, Erratum ibid. **D94** (2016) 079902, arXiv:1602.03455.

[612] LHCb collaboration, R. Aaij *et al.*, *Study of $\psi(2S)$ production and cold nuclear matter effects in pPb collisions at $\sqrt{s_{NN}} = 5$ TeV Study of $\psi(2S)$ production and cold nuclear matter effects in pPb collisions at $\sqrt{s_{NN}} = 5$ TeV*, JHEP **03** (2016) 133, arXiv:1601.07878.

[613] LHCb collaboration, R. Aaij *et al.*, *First observation of D^0–$\overline{D}^0$ oscillations in $D^0 \to K^+\pi^+\pi^-\pi^-$ decays and a measurement of the associated coherence parameters*, Phys. Rev. Lett. **116** (2016) 241801, arXiv:1602.07224.

[614] LHCb collaboration, R. Aaij *et al.*, *Measurement of the difference of time-integrated CP asymmetries in $D^0 \to K^-K^+$ and $D^0 \to \pi^-\pi^+$ decays*, Phys. Rev. Lett. **116** (2016) 191601, arXiv:1602.03160.

[615] LHCb collaboration, R. Aaij *et al.*, *First observation of the rare $B^+ \to D^+K^+\pi^-$ decay*, Phys. Rev. **D93** (2016) 051101(R), Erratum ibid. **D93** (2016) 119902, arXiv:1512.02494.

[616] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $B_s^0 \to D_s^{(*)+}D_s^{(*)-}$ branching fractions*, Phys. Rev. **D93** (2016) 092008, arXiv:1602.07543.

[617] LHCb collaboration, R. Aaij *et al.*, *Study of D_{sJ}^+ mesons decaying to $D^{*+}K_S^0$ and $D^{*0}K^+$ final states*, JHEP **02** (2016) 133, arXiv:1601.01495.

[618] LHCb collaboration, R. Aaij *et al.*, *Angular analysis of the $B^0 \to K^{*0}\mu^+\mu^-$ decay using $3\,fb^{-1}$ of integrated luminosity*, JHEP **02** (2016) 104, arXiv:1512.04442.

[619] LHCb collaboration, R. Aaij *et al.*, *Observation of $B_s^0 \to \overline{D}^0K_S^0$ and evidence for $B_s^0 \to \overline{D}^{*0}K_S^0$ decays*, Phys. Rev. Lett. **116** (2016) 161802, arXiv:1603.02408.

[620] LHCb collaboration, R. Aaij *et al.*, *Measurement of forward W and Z boson production in pp collisions at $\sqrt{s} = 8$ TeV*, JHEP **01** (2016) 155, arXiv:1511.08039.

[621] LHCb collaboration, R. Aaij *et al.*, *Search for the lepton-flavour violating decay $D^0 \to e^\pm\mu^\mp$*, Phys. Lett. **B754** (2016) 167, arXiv:1512.00322.

[622] LHCb collaboration, R. Aaij *et al.*, *Evidence for the strangeness-changing weak decay $\Xi_b^- \to \Lambda_b^0\pi^-$*, Phys. Rev. Lett. **115** (2015) 241801, arXiv:1510.03829.

[623] LHCb collaboration, R. Aaij *et al.*, *Production of associated Υ and open charm hadrons in pp collisions at $\sqrt{s} = 7$ and 8 TeV via double parton scattering*, JHEP **07** (2016) 052, arXiv:1510.05949.

[624] LHCb collaboration, R. Aaij *et al.*, *Forward production of Υ mesons in pp collisions at $\sqrt{s} = 7$ and 8 TeV*, JHEP **11** (2015) 103, arXiv:1509.02372.

[625] LHCb collaboration, R. Aaij *et al.*, *Search for the decays $B^0 \to J/\psi\gamma$ and $B^0_s \to J/\psi\gamma$*, Phys. Rev. **D92** (2015) 112002, arXiv:1510.04866.

[626] LHCb collaboration, R. Aaij *et al.*, *First observation of the decay $D^0 \to K^-\pi^+\mu^+\mu^-$ in the $\rho^0-\omega$ region of the dimuon mass spectrum*, Phys. Lett. **B757** (2016) 558, arXiv:1510.08367.

[627] LHCb collaboration, R. Aaij *et al.*, *Model-independent measurement of mixing parameters in $D^0 \to K^0_S\pi^+\pi^-$ decays*, JHEP **04** (2016) 033, arXiv:1510.01664.

[628] LHCb collaboration, R. Aaij *et al.*, *Measurements of prompt charm production cross-sections in pp collisions at $\sqrt{s} = 13$ TeV*, JHEP **03** (2016) 159, Erratum ibid. **09** (2016) 013, Erratum ibid. **05** (2017) 074, arXiv:1510.01707.

[629] LHCb collaboration, R. Aaij *et al.*, *Measurements of long-range near-side angular correlations in $\sqrt{s_{NN}} = 5$ TeV proton-lead collisions in the forward region*, Phys. Lett. **B762** (2016) 473, arXiv:1512.00439.

[630] LHCb collaboration, R. Aaij *et al.*, *Measurement of the forward-backward asymmetry in $Z/\gamma^* \to \mu^+\mu^-$ decays and determination of the effective weak mixing angle*, JHEP **11** (2015) 190, arXiv:1509.07645.

[631] LHCb collaboration, R. Aaij *et al.*, *Model-independent confirmation of the $Z(4430)^-$ state*, Phys. Rev. **D92** (2015) 112009, arXiv:1510.01951.

[632] LHCb collaboration, R. Aaij *et al.*, *Measurement of forward J/ψ production cross-sections in pp collisions at $\sqrt{s} = 13$ TeV*, JHEP **10** (2015) 172, Erratum ibid. **05** (2017) 063, arXiv:1509.00771.

[633] LHCb collaboration, R. Aaij *et al.*, *Search for hidden-sector bosons in $B^0 \to K^{*0}\mu^+\mu^-$ decays*, Phys. Rev. Lett. **115** (2015) 161802, arXiv:1508.04094.

[634] LHCb collaboration, R. Aaij *et al.*, *First measurement of the differential branching fraction and CP asymmetry of the $B^+ \to \pi^+\mu^+\mu^-$ decay*, JHEP **10** (2015) 034, arXiv:1509.00414.

[635] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation parameters and polarisation fractions in $B^0_s \to J/\psi\overline{K}^{*0}$ decays*, JHEP **11** (2015) 082, arXiv:1509.00400.

[636] LHCb collaboration, R. Aaij *et al.*, *Observation of the $B^0_s \to J/\psi\phi\phi$ decay*, JHEP **03** (2016) 040, arXiv:1601.05284.

[637] LHCb collaboration, R. Aaij *et al.*, *Study of the productions of Λ^0_b and $\overline{B}^0$ hadrons in pp collisions and first measurement of the $\Lambda^0_b \to J/\psi pK^-$ branching fraction*, Chin. Phys. **C40** (2016) 011001, arXiv:1509.00292.

[638] LHCb collaboration, R. Aaij *et al.*, *A precise measurement of the B^0 meson oscillation frequency*, Eur. Phys. J. **C76** (2016) 412, arXiv:1604.03475.

[639] LHCb collaboration, R. Aaij *et al.*, *Measurement of the time-integrated CP asymmetry in $D^0 \to K^0_S K^0_S$ decays*, JHEP **10** (2015) 055, arXiv:1508.06087.

[640] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $B_s^0 \to \phi\phi$ branching fraction and search for the decay $B^0 \to \phi\phi$*, JHEP **10** (2015) 053, arXiv:1508.00788.

[641] LHCb collaboration, R. Aaij *et al.*, *Studies of the resonance structure in $D^0 \to K_S^0 K^\pm \pi^\mp$ decays*, Phys. Rev. **D93** (2016) 052018, arXiv:1509.06628.

[642] LHCb collaboration, R. Aaij *et al.*, *Measurement of the ratio of branching fractions $\mathcal{B}(\overline{B}^0 \to D^{*+}\tau^-\overline{\nu}_\tau)/\mathcal{B}(\overline{B}^0 \to D^{*+}\mu^-\overline{\nu}_\mu)$*, Phys. Rev. Lett. **115** (2015) 111803, Publisher's Note ibid. **115** (2015) 159901, arXiv:1506.08614.

[643] LHCb collaboration, R. Aaij *et al.*, *Measurement of the branching fraction ratio $\mathcal{B}(B_c^+ \to \psi(2S)\pi^+)/\mathcal{B}(B_c^+ \to J/\psi\pi^+)$*, Phys. Rev. **D92** (2015) 057007, arXiv:1507.03516.

[644] LHCb collaboration, R. Aaij *et al.*, *Angular analysis and differential branching fraction of the decay $B_s^0 \to \phi\mu^+\mu^-$*, JHEP **09** (2015) 179, arXiv:1506.08777.

[645] LHCb collaboration, R. Aaij *et al.*, *First observation of top quark production in the forward region*, Phys. Rev. Lett. **115** (2015) 112001, arXiv:1506.00903.

[646] LHCb collaboration, R. Aaij *et al.*, *Study of W boson production in association with beauty and charm*, Phys. Rev. **D92** (2015) 052012, arXiv:1505.04051.

[647] LHCb collaboration, R. Aaij *et al.*, *Study of $B^- \to DK^-\pi^+\pi^-$ and $B^- \to D\pi^-\pi^+\pi^-$ decays and determination of the CKM angle γ*, Phys. Rev. **D92** (2015) 112005, arXiv:1505.07044.

[648] LHCb collaboration, R. Aaij *et al.*, *Search for the $\Lambda_b^0 \to \Lambda\eta$ and $\Lambda_b^0 \to \Lambda\eta'$ decays with the LHCb detector*, JHEP **09** (2015) 006, arXiv:1505.03295.

[649] LHCb collaboration, R. Aaij *et al.*, *First observation of the decay $B_s^0 \to K_S^0 K^*(892)^0$*, JHEP **01** (2016) 012, arXiv:1506.08634.

[650] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis of $B^0 \to \overline{D}^0 K^+\pi^-$ decays*, Phys. Rev. **D92** (2015) 012012, arXiv:1505.01505.

[651] LHCb collaboration, R. Aaij *et al.*, *Identification of beauty and charm quark jets at LHCb*, JINST **10** (2015) P06013, arXiv:1504.07670.

[652] LHCb collaboration, R. Aaij *et al.*, *Quantum numbers of the $X(3872)$ state and orbital angular momentum in its $\rho^0 J/\psi$ decays*, Phys. Rev. **D92** (2015) 011102(R), arXiv:1504.06339.

[653] LHCb collaboration, R. Aaij *et al.*, *A study of CP violation in $B^\mp \to Dh^\mp$ ($h = K, \pi$) with the modes $D \to K^\mp\pi^\pm\pi^0$, $D \to \pi^+\pi^-\pi^0$ and $D \to K^+K^-\pi^0$*, Phys. Rev. **D91** (2015) 112014, arXiv:1504.05442.

[654] LHCb collaboration, R. Aaij *et al.*, *Determination of the quark coupling strength $|V_{ub}|$ using baryonic decays*, Nature Physics **11** (2015) 743, arXiv:1504.01568.

[655] LHCb collaboration, R. Aaij *et al.*, *Search for the decay $B_s^0 \to \overline{D}^0 f_0(980)$*, JHEP **08** (2015) 005, arXiv:1505.01654.

[656] LHCb collaboration, R. Aaij *et al.*, *Measurement of the exclusive $\Upsilon(nS)$ production cross-section in pp collisions at $\sqrt{s}=7$ TeV and 8 TeV*, JHEP **09** (2015) 084, arXiv:1505.08139.

[657] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $\overline{B}^0_s \to \psi(2S)K^+\pi^-$*, Phys. Lett. **B747** (2015) 484, arXiv:1503.07112.

[658] LHCb collaboration, R. Aaij *et al.*, *Differential branching fraction and angular analysis of $\Lambda^0_b \to \Lambda\mu^+\mu^-$ decays*, JHEP **06** (2015) 115, Erratum ibid. **09** (2018) 145, arXiv:1503.07138.

[659] LHCb collaboration, R. Aaij *et al.*, *First observation and measurement of the branching fraction for the decay $B^0_s \to D_s^{*\mp}K^\pm$*, JHEP **06** (2015) 130, arXiv:1503.09086.

[660] LHCb collaboration, R. Aaij *et al.*, *First observation and amplitude analysis of the $B^- \to D^+K^-\pi^-$ decay*, Phys. Rev. **D91** (2015) 092002, Erratum ibid. **D93** (2016) 119901, arXiv:1503.02995.

[661] LHCb collaboration, R. Aaij *et al.*, *Observation of the $B^0 \to \rho^0\rho^0$ decay from an amplitude analysis of $B^0 \to (\pi^+\pi^-)(\pi^+\pi^-)$ decays*, Phys. Lett. **B747** (2015) 468, arXiv:1503.07770.

[662] LHCb collaboration, R. Aaij *et al.*, *Measurement of the time-dependent CP asymmetries in $B^0_s \to J/\psi K^0_S$*, JHEP **06** (2015) 131, arXiv:1503.07055.

[663] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in $B^0 \to J/\psi K^0_S$ decays*, Phys. Rev. Lett. **115** (2015) 031601, arXiv:1503.07089.

[664] LHCb collaboration, R. Aaij *et al.*, *Measurement of $Z \to e^+e^-$ production at $\sqrt{s}=8$ TeV*, JHEP **05** (2015) 109, arXiv:1503.00963.

[665] LHCb collaboration, R. Aaij *et al.*, *Search for long-lived heavy charged particles using a ring-imaging Cherenkov technique at LHCb*, Eur. Phys. J. **C75** (2015) 595, arXiv:1506.09173.

[666] LHCb collaboration, R. Aaij *et al.*, *Measurement of the forward Z boson cross-section in pp collisions at $\sqrt{s}=7$ TeV*, JHEP **08** (2015) 039, arXiv:1505.07024.

[667] LHCb collaboration, R. Aaij *et al.*, *Dalitz plot analysis of $B^0 \to \overline{D}^0\pi^+\pi^-$ decays*, Phys. Rev. **D92** (2015) 032002, arXiv:1505.01710.

[668] LHCb collaboration, R. Aaij *et al.*, *Measurement of indirect CP asymmetries in $D^0 \to K^-K^+$ and $D^0 \to \pi^-\pi^+$ decays using semileptonic B decays*, JHEP **04** (2015) 043, arXiv:1501.06777.

[669] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetries and polarisation fractions in $B^0_s \to K^{*0}\overline{K}^{*0}$ decays*, JHEP **07** (2015) 166, arXiv:1503.05362.

[670] LHCb collaboration, R. Aaij *et al.*, *Precise measurements of the properties of the $B_1(5721)^{0,+}$ and $B_2^*(5747)^{0,+}$ states and observation of structure at higher invariant mass in the $B^+\pi^-$ and $B^0\pi^+$ spectra*, JHEP **04** (2015) 024, arXiv:1502.02638.

[671] LHCb collaboration, R. Aaij *et al.*, *Angular analysis of the $B^0 \to K^{*}e^{+}e^{-}$ decay in the low-q^2 region*, JHEP **04** (2015) 064, arXiv:1501.03038.

[672] LHCb collaboration, R. Aaij *et al.*, *Observation of the $B^0_s \to \eta'\eta'$ decay*, Phys. Rev. Lett. **115** (2015) 051801, arXiv:1503.07483.

[673] LHCb collaboration, R. Aaij *et al.*, *Determination of the branching fractions of $B^0_s \to D^{\mp}_s K^{\pm}$ and $B^0 \to D^{-}_s K^{+}$*, JHEP **05** (2015) 019, arXiv:1412.7654.

[674] LHCb collaboration, R. Aaij *et al.*, *Study of the rare B^0_s and B^0 decays into the $\pi^+\pi^-\mu^+\mu^-$ final state*, Phys. Lett. **B743** (2015) 46, arXiv:1412.6433.

[675] LHCb collaboration, R. Aaij *et al.*, *Search for long-lived particles decaying to jet pairs*, Eur. Phys. J. **C75** (2015) 152, arXiv:1412.3021.

[676] LHCb collaboration, R. Aaij *et al.*, *Observation of two new Ξ^-_b baryon resonances*, Phys. Rev. Lett. **114** (2015) 062004, arXiv:1411.4849.

[677] LHCb collaboration, R. Aaij *et al.*, *Measurement of the lifetime of the B^+_c meson using the $B^+_c \to J/\psi\pi^+$ decay mode*, Phys. Lett. **B742** (2015) 29, arXiv:1411.6899.

[678] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of CP violation in $B^0_s \to J/\psi K^+K^-$ decays*, Phys. Rev. Lett. **114** (2015) 041801, arXiv:1411.3104.

[679] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP-violating phase β in $\overline{B}^0 \to J/\psi\pi^+\pi^-$ decays and limits on penguin effects*, Phys. Lett. **B742** (2015) 38, arXiv:1411.1634.

[680] LHCb collaboration, R. Aaij *et al.*, *Measurement of the inelastic pp cross-section at a centre-of-mass energy of $\sqrt{s} = 7$ TeV*, JHEP **02** (2015) 029, arXiv:1412.2500.

[681] LHCb collaboration, R. Aaij *et al.*, *Study of η–η' mixing from measurement of $B^0_{(s)} \to J/\psi\eta^{(\prime)}$ decay rates*, JHEP **01** (2015) 024, arXiv:1411.0943.

[682] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $Z + b$-jet cross-section in pp collisions at $\sqrt{s} = 7$ TeV in the forward region*, JHEP **01** (2015) 064, arXiv:1411.1264.

[683] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in $D^0 \to \pi^-\pi^+\pi^0$ decays with the energy test*, Phys. Lett. **B740** (2015) 158, arXiv:1410.4170.

[684] LHCb collaboration, R. Aaij *et al.*, *Measurement of the semileptonic CP asymmetry in B^0–$\overline{B}^0$ mixing*, Phys. Rev. Lett. **114** (2015) 041601, arXiv:1409.8586.

[685] LHCb collaboration, R. Aaij *et al.*, *Search for the lepton flavour violating decay $\tau^- \to \mu^-\mu^+\mu^-$*, JHEP **02** (2015) 121, arXiv:1409.8548.

[686] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP-violating phase ϕ_s in $\overline{B}^0_s \to D^+_s D^-_s$ decays*, Phys. Rev. Lett. **113** (2014) 211801, arXiv:1409.4619.

[687] LHCb collaboration, R. Aaij *et al.*, *Measurement of B^+_c production in proton-proton collisions at $\sqrt{s} = 8$ TeV*, Phys. Rev. Lett. **114** (2015) 132001, arXiv:1411.2943.

[688] CMS and LHCb collaborations, V. Khachatryan *et al.*, *Observation of the rare $B_s^0 \to \mu^+\mu^-$ decay from the combined analysis of CMS and LHCb data*, Nature **522** (2015) 68, arXiv:1411.4413.

[689] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of the mass and lifetime of the Ξ_b^- baryon*, Phys. Rev. Lett. **113** (2014) 242002, arXiv:1409.8568.

[690] LHCb collaboration, R. Aaij *et al.*, *Precision luminosity measurements at LHCb*, JINST **9** (2014) P12005, arXiv:1410.0149.

[691] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation using T-odd correlations in $D^0 \to K^+K^-\pi^+\pi^-$ decays*, JHEP **10** (2014) 005, arXiv:1408.1299.

[692] LHCb collaboration, R. Aaij *et al.*, *Determination of γ and $-2\beta_s$ from charmless two-body decays of beauty mesons*, Phys. Lett. **B739** (2015) 1, arXiv:1408.4368.

[693] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in the three-body phase space of charmless $B^\pm$ decays*, Phys. Rev. **D90** (2014) 112004, arXiv:1408.5373.

[694] LHCb collaboration, R. Aaij *et al.*, *Observation of $B_s^0 \to K^{*\pm}K^\mp$ and evidence of $B_s^0 \to K^{*-}\pi^+$ decays*, New J. Phys. **16** (2014) 123001, arXiv:1407.7704.

[695] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $\overline{B}^0$–B^0 and $\overline{B}_s^0$–B_s^0 production asymmetries in pp collisions at $\sqrt{s} = 7$ TeV*, Phys. Lett. **B739** (2014) 218, arXiv:1408.0275.

[696] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CKM angle γ using $B^\pm \to DK^\pm$ with $D \to K_S^0\pi^+\pi^-$, $K_S^0K^+K^-$ decays*, JHEP **10** (2014) 097, arXiv:1408.2748.

[697] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $\chi_b(3P)$ mass and of the relative rate of $\chi_{b1}(1P)$ and $\chi_{b2}(1P)$ production*, JHEP **10** (2014) 088, arXiv:1409.1408.

[698] LHCb collaboration, R. Aaij *et al.*, *First observation of a baryonic B_c^+ decay*, Phys. Rev. Lett. **113** (2014) 152003, arXiv:1408.0971.

[699] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetry in $B_s^0 \to D_s^\mp K^\pm$ decays*, JHEP **11** (2014) 060, arXiv:1407.6127.

[700] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $\overline{B}_s^0$ meson lifetime in $D_s^+\pi^-$ decays*, Phys. Rev. Lett. **113** (2014) 172001, arXiv:1407.5873.

[701] LHCb collaboration, R. Aaij *et al.*, *Dalitz plot analysis of $B_s^0 \to \overline{D}^0K^-\pi^+$ decays*, Phys. Rev. **D90** (2014) 072003, arXiv:1407.7712.

[702] LHCb collaboration, R. Aaij *et al.*, *Observation of overlapping spin-1 and spin-3 $\overline{D}^0K^-$ resonances at mass 2.86 GeV/c^2*, Phys. Rev. Lett. **113** (2014) 162001, arXiv:1407.7574.

[703] LHCb collaboration, R. Aaij *et al.*, *Evidence for CP violation in $B^+ \to p\overline{p}K^+$ decays*, Phys. Rev. Lett. **113** (2014) 141801, arXiv:1407.5907.

[704] LHCb collaboration, R. Aaij *et al.*, *Measurement of the forward W boson production cross-section in pp collisions at $\sqrt{s} = 7$ TeV*, JHEP **12** (2014) 079, arXiv:1408.4354.

[705] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetries in the decays $B^0 \to K^{*0}\mu^+\mu^-$ and $B^+ \to K^+\mu^+\mu^-$*, JHEP **09** (2014) 177, arXiv:1408.0978.

[706] LHCb collaboration, R. Aaij *et al.*, *Study of χ_b meson production in pp collisions at $\sqrt{s} = 7$ and 8 TeV and observation of the decay $\chi_b \to \Upsilon(3S)\gamma$*, Eur. Phys. J. **C74** (2014) 3092, arXiv:1407.7734.

[707] LHCb collaboration, R. Aaij *et al.*, *First observations of the rare decays $B^+ \to K^+\pi^+\pi^-\mu^+\mu^-$ and $B^+ \to \phi K^+\mu^+\mu^-$*, JHEP **10** (2014) 064, arXiv:1408.1137.

[708] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $\eta_c(1S)$ production cross-section in proton-proton collisions via the decay $\eta_c(1S) \to p\overline{p}$*, Eur. Phys. J. **C75** (2015) 311, arXiv:1409.3612.

[709] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation parameters in $B^0 \to DK^{*0}$ decays*, Phys. Rev. **D90** (2014) 112002, arXiv:1407.8136.

[710] LHCb collaboration, R. Aaij *et al.*, *Observation of charmonium pairs produced exclusively in pp collisions*, J. Phys. **G41** (2014) 115002, arXiv:1407.5973.

[711] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in $B^0_s \to \phi\phi$ decays*, Phys. Rev. **D90** (2014) 052011, arXiv:1407.2222.

[712] LHCb collaboration, R. Aaij *et al.*, *Measurement of the ratio of B_c^+ branching fractions to $J/\psi\pi^+$ and $J/\psi\mu^+\nu_\mu$*, Phys. Rev. **D90** (2014) 032009, arXiv:1407.2126.

[713] LHCb collaboration, R. Aaij *et al.*, *Test of lepton universality using $B^+ \to K^+\ell^+\ell^-$ decays*, Phys. Rev. Lett. **113** (2014) 151601, arXiv:1406.6482.

[714] LHCb collaboration, R. Aaij *et al.*, *First measurement of the charge asymmetry in beauty-quark pair production*, Phys. Rev. Lett. **113** (2014) 082003, arXiv:1406.4789.

[715] LHCb collaboration, R. Aaij *et al.*, *Observation of Z production in proton-lead collisions at LHCb*, JHEP **09** (2014) 030, arXiv:1406.2885.

[716] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of the mass and lifetime of the Ξ_b^0 baryon*, Phys. Rev. Lett. **113** (2014) 032001, arXiv:1405.7223.

[717] LHCb collaboration, R. Aaij *et al.*, *Observation of the $\Lambda_b^0 \to J/\psi p\pi^-$ decay*, JHEP **07** (2014) 103, arXiv:1406.0755.

[718] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP-violating phase ϕ_s in $\overline{B}^0_s \to J/\psi\pi^+\pi^-$ decays*, Phys. Lett. **B736** (2014) 186, arXiv:1405.4140.

[719] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in $D^{\pm}\to K^0_S K^{\pm}$ and $D_s^{\pm}\to K^0_S\pi^{\pm}$ decays*, JHEP **10** (2014) 025, arXiv:1406.2624.

[720] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation and constraints on the CKM angle γ in $B^{\pm}\to DK^{\pm}$ with $D\to K^0_S\pi^+\pi^-$ decays*, Nucl. Phys. **B888** (2014) 169, arXiv:1407.6211.

[721] LHCb collaboration, R. Aaij *et al.*, *Observation of the $B_s^0\to J/\psi K^0_S K^{\pm}\pi^{\mp}$ decay*, JHEP **07** (2014) 140, arXiv:1405.3219.

[722] LHCb collaboration, R. Aaij *et al.*, *Study of Υ production and cold nuclear matter effects in pPb collisions at $\sqrt{s_{NN}}=5$ TeV*, JHEP **07** (2014) 094, arXiv:1405.5152.

[723] LHCb collaboration, R. Aaij *et al.*, *Observation of the resonant character of the $Z(4430)^-$ state*, Phys. Rev. Lett. **112** (2014) 222002, arXiv:1404.1903.

[724] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP asymmetry in $D^0\to K^-K^+$ and $D^0\to\pi^-\pi^+$ decays*, JHEP **07** (2014) 041, arXiv:1405.2797.

[725] LHCb collaboration, R. Aaij *et al.*, *Measurement of the resonant and CP components in $\overline{B}^0\to J/\psi\pi^+\pi^-$ decays*, Phys. Rev. **D90** (2014) 012003, arXiv:1404.5673.

[726] LHCb collaboration, R. Aaij *et al.*, *Effective lifetime measurements in the $B_s^0\to K^+K^-$, $B^0\to K^+\pi^-$ and $B_s^0\to\pi^+K^-$ decays*, Phys. Lett. **B736** (2014) 446, arXiv:1406.7204.

[727] LHCb collaboration, R. Aaij *et al.*, *Measurement of the Ξ_b^- and Ω_b^- baryon lifetimes*, Phys. Lett. **B736** (2014) 154, arXiv:1405.1543.

[728] LHCb collaboration, R. Aaij *et al.*, *Evidence for the decay $B_c^+\to J/\psi 3\pi^+2\pi^-$*, JHEP **05** (2014) 148, arXiv:1404.0287.

[729] LHCb collaboration, R. Aaij *et al.*, *Evidence for the decay $X(3872)\to\psi(2S)\gamma$*, Nucl. Phys. **B886** (2014) 665, arXiv:1404.0275.

[730] LHCb collaboration, R. Aaij *et al.*, *Angular analysis of charged and neutral $B\to K\mu^+\mu^-$ decays*, JHEP **05** (2014) 082, arXiv:1403.8045.

[731] LHCb collaboration, R. Aaij *et al.*, *Measurement of polarization amplitudes and CP asymmetries in $B^0\to\phi K^*(892)^0$*, JHEP **05** (2014) 069, arXiv:1403.2888.

[732] LHCb collaboration, R. Aaij *et al.*, *Study of the kinematic dependences of Λ_b^0 production in pp collisions and a measurement of the $\Lambda_b^0\to\Lambda_c^+\pi^-$ branching fraction*, JHEP **08** (2014) 143, arXiv:1405.6842.

[733] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of the ratio of the Λ_b^0 to $\overline{B}^0$ lifetimes*, Phys. Lett. **B734** (2014) 122, arXiv:1402.6242.

[734] LHCb collaboration, R. Aaij *et al.*, *Study of beauty hadron decays into pairs of charm hadrons*, Phys. Rev. Lett. **112** (2014) 202001, arXiv:1403.3606.

[735] LHCb collaboration, R. Aaij *et al.*, *Observation of photon polarization in the $b\to s\gamma$ transition*, Phys. Rev. Lett. **112** (2014) 161801, arXiv:1402.6852.

[736] LHCb collaboration, R. Aaij *et al.*, *Measurement of resonant and CP components in $\overline{B}{}^0_s \to J/\psi\pi^+\pi^-$ decays*, Phys. Rev. **D89** (2014) 092006, arXiv:1402.6248.

[737] LHCb collaboration, R. Aaij *et al.*, *A study of CP violation in $B^\pm \to DK^\pm$ and $B^\pm \to D\pi^\pm$ decays with $D \to K^0_S K^\pm\pi^\mp$ final states*, Phys. Lett. **B733** (2014) 36, arXiv:1402.2982.

[738] LHCb collaboration, R. Aaij *et al.*, *Measurement of $\psi(2S)$ polarisation in pp collisions at $\sqrt{s} = 7$ TeV*, Eur. Phys. J. **C74** (2014) 2872, arXiv:1403.1339.

[739] LHCb collaboration, R. Aaij *et al.*, *Measurement of Υ production in pp collisions at $\sqrt{s} = 2.76$ TeV*, Eur. Phys. J. **C74** (2014) 2835, arXiv:1402.2539.

[740] LHCb collaboration, R. Aaij *et al.*, *Measurements of the B^+, B^0, B^0_s meson and Λ^0_b baryon lifetimes*, JHEP **04** (2014) 114, arXiv:1402.2554.

[741] LHCb collaboration, R. Aaij *et al.*, *Search for Majorana neutrinos in $B^- \to \pi^+\mu^-\mu^-$ decays*, Phys. Rev. Lett. **112** (2014) 131802, arXiv:1401.5361.

[742] LHCb collaboration, R. Aaij *et al.*, *Measurement of the B^+_c meson lifetime using $B^+_c \to J/\psi\mu^+\nu_\mu X$ decays*, Eur. Phys. J. **C74** (2014) 2839, arXiv:1401.6932.

[743] LHCb collaboration, R. Aaij *et al.*, *Observation of associated production of a Z boson with a D meson in the forward region*, JHEP **04** (2014) 091, arXiv:1401.3245.

[744] LHCb collaboration, R. Aaij *et al.*, *Searches for Λ^0_b and Ξ^0_b decays to $K^0_S p\pi^-$ and $K^0_S pK^-$ final states with first observation of the $\Lambda^0_b \to K^0_S p\pi^-$ decay*, JHEP **04** (2014) 087, arXiv:1402.0770.

[745] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $\overline{B}{}^0_s \to D^-_s D^+_s$ and $\overline{B}{}^0_s \to D^- D^+_s$ effective lifetimes*, Phys. Rev. Lett. **112** (2014) 111802, arXiv:1312.1217.

[746] LHCb collaboration, R. Aaij *et al.*, *Updated measurements of exclusive J/ψ and $\psi(2S)$ production cross-sections in pp collisions at $\sqrt{s} = 7$ TeV*, J. Phys. **G41** (2014) 055002, arXiv:1401.3288.

[747] LHCb collaboration, R. Aaij *et al.*, *Study of forward Z +jet production in pp collisions at $\sqrt{s} = 7$ TeV*, JHEP **01** (2014) 033, arXiv:1310.8197.

[748] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in the decay $D^+ \to \pi^-\pi^+\pi^+$*, Phys. Lett. **B728** (2014) 585, arXiv:1310.7953.

[749] LHCb collaboration, R. Aaij *et al.*, *Study of beauty baryon decays to $D^0 ph^-$ and $\Lambda^+_c h^-$ final states*, Phys. Rev. **D89** (2014) 032001, arXiv:1311.4823.

[750] LHCb collaboration, R. Aaij *et al.*, *Observation of $\overline{B}{}^0_s \to J/\psi f_1(1285)$ decays and measurement of the $f_1(1285)$ mixing angle*, Phys. Rev. Lett. **112** (2014) 091802, arXiv:1310.2145.

[751] LHCb collaboration, R. Aaij *et al.*, *Measurements of indirect CP asymmetries in $D^0 \to K^-K^+$ and $D^0 \to \pi^-\pi^+$ decays*, Phys. Rev. Lett. **112** (2014) 041801, arXiv:1310.7201.

[752] LHCb collaboration, R. Aaij *et al.*, *Measurement of D^0–$\overline{D}^0$ mixing parameters and search for CP violation using $D^0 \to K^+\pi^-$ decays*, Phys. Rev. Lett. **111** (2013) 251801, arXiv:1309.6534.

[753] LHCb collaboration, R. Aaij *et al.*, *Study of J/ψ production and cold nuclear matter effects in pPb collisions at $\sqrt{s_{NN}}=5$ TeV*, JHEP **02** (2014) 072, arXiv:1308.6729.

[754] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in the phase space of $B^\pm \to K^+K^-\pi^\pm$ and $B^\pm \to \pi^+\pi^-\pi^\pm$ decays*, Phys. Rev. Lett. **112** (2014) 011801, arXiv:1310.4740.

[755] LHCb collaboration, R. Aaij *et al.*, *Search for the decay $D^0 \to \pi^+\pi^-\mu^+\mu^-$*, Phys. Lett. **B728** (2014) 234, arXiv:1310.2535.

[756] LHCb collaboration, R. Aaij *et al.*, *Search for the doubly charmed baryon Ξ_{cc}^+*, JHEP **12** (2013) 090, arXiv:1310.2538.

[757] LHCb collaboration, R. Aaij *et al.*, *Measurement of the charge asymmetry in $B^\pm \to \phi K^\pm$ and search for $B^\pm \to \phi\pi^\pm$ decays*, Phys. Lett. **B728** (2014) 85, arXiv:1309.3742.

[758] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $B_c^+ \to J/\psi K^+K^-\pi^+$*, JHEP **11** (2013) 094, arXiv:1309.0587.

[759] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $B_s^0 \to \mu^+\mu^-$ branching fraction and search for $B^0 \to \mu^+\mu^-$ decays at the LHCb experiment*, Phys. Rev. Lett. **111** (2013) 101805, arXiv:1307.5024.

[760] LHCb collaboration, R. Aaij *et al.*, *First observation of $\overline{B}^0 \to J/\psi K^+K^-$ and search for $\overline{B}^0 \to J/\psi\phi$ decays*, Phys. Rev. **D88** (2013) 072005, arXiv:1308.5916.

[761] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $B_c^+ \to B_s^0\pi^+$*, Phys. Rev. Lett. **111** (2013) 181801, arXiv:1308.4544.

[762] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP asymmetry in $B^+ \to K^+\mu^+\mu^-$ decays*, Phys. Rev. Lett. **111** (2013) 151801, arXiv:1308.1340.

[763] LHCb collaboration, R. Aaij *et al.*, *Study of $B_{(s)}^0 \to K_S^0 h^+h'^-$ decays with first observation of $B_s^0 \to K_S^0K^\pm\pi^\mp$ and $B_s^0 \to K_S^0\pi^+\pi^-$*, JHEP **10** (2013) 143, arXiv:1307.7648.

[764] LHCb collaboration, R. Aaij *et al.*, *Model-independent search for CP violation in $D^0 \to K^-K^+\pi^+\pi^-$ and $D^0 \to \pi^-\pi^+\pi^-\pi^+$ decays*, Phys. Lett. **B726** (2013) 623, arXiv:1308.3189.

[765] LHCb collaboration, R. Aaij *et al.*, *First measurement of time-dependent CP violation in $B_s^0 \to K^+K^-$ decays*, JHEP **10** (2013) 183, arXiv:1308.1428.

[766] LHCb collaboration, R. Aaij *et al.*, *Observation of a resonance in $B^+ \to K^+\mu^+\mu^-$ decays at low recoil*, Phys. Rev. Lett. **111** (2013) 112003, arXiv:1307.7595.

[767] LHCb collaboration, R. Aaij *et al.*, *First evidence for the two-body charmless baryonic decay $B^0 \to p\overline{p}$*, JHEP **10** (2013) 005, arXiv:1308.0961.

[768] LHCb collaboration, R. Aaij *et al.*, *Measurement of form-factor-independent observables in the decay $B^0 \to K^{*0}\mu^+\mu^-$*, Phys. Rev. Lett. **111** (2013) 191801, arXiv:1308.1707.

[769] LHCb collaboration, R. Aaij *et al.*, *Observation of B^0_s–$\overline{B}^0_s$ mixing and measurement of mixing frequencies using semileptonic B decays*, Eur. Phys. J. **C73** (2013) 2655, arXiv:1308.1302.

[770] LHCb collaboration, R. Aaij *et al.*, *Branching fraction and CP asymmetry of the decays $B^+ \to K^0_S\pi^+$ and $B^+ \to K^0_S K^+$*, Phys. Lett. **B726** (2013) 646, arXiv:1308.1277.

[771] LHCb collaboration, R. Aaij *et al.*, *Measurement of the flavour-specific CP-violating asymmetry a^s_{sl} in B^0_s decays*, Phys. Lett. **B728** (2014) 607, arXiv:1308.1048.

[772] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of the Λ^0_b baryon lifetime*, Phys. Rev. Lett. **111** (2013) 102003, arXiv:1307.2476.

[773] LHCb collaboration, R. Aaij *et al.*, *Studies of the decays $B^+ \to p\overline{p}h^+$ and observation of $B^+ \to \overline{\Lambda}(1520)p$*, Phys. Rev. **D88** (2013) 052015, arXiv:1307.6165.

[774] LHCb collaboration, R. Aaij *et al.*, *Search for the lepton-flavour-violating decays $B^0_s \to e^\pm\mu^\mp$ and $B^0 \to e^\pm\mu^\mp$*, Phys. Rev. Lett. **111** (2013) 141801, arXiv:1307.4889.

[775] LHCb collaboration, R. Aaij *et al.*, *Searches for $B^0_{(s)} \to J/\psi p\overline{p}$ and $B^+ \to J/\psi p\overline{p}\pi^+$ decays*, JHEP **09** (2013) 006, arXiv:1306.4489.

[776] LHCb collaboration, R. Aaij *et al.*, *Measurement of the relative rate of prompt χ_{c0}, χ_{c1} and χ_{c2} production at $\sqrt{s} = 7$ TeV*, JHEP **10** (2013) 115, arXiv:1307.4285.

[777] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation in the phase space of $B^\pm \to K^\pm\pi^+\pi^-$ and $B^\pm \to K^\pm K^+K^-$ decays*, Phys. Rev. Lett. **111** (2013) 101801, arXiv:1306.1246.

[778] LHCb collaboration, R. Aaij *et al.*, *Study of D_J meson decays to $D^+\pi^-$, $D^0\pi^+$ and $D^{*+}\pi^-$ final states in pp collisions*, JHEP **09** (2013) 145, arXiv:1307.4556.

[779] LHCb collaboration, R. Aaij *et al.*, *Measurement of the differential branching fraction of the decay $\Lambda^0_b \to \Lambda\mu^+\mu^-$*, Phys. Lett. **B725** (2013) 25, arXiv:1306.2577.

[780] LHCb collaboration, R. Aaij *et al.*, *Observation of $B^0_s \to \chi_{c1}\phi$ decay and study of $B^0 \to \chi_{c1,2}K^{*0}$ decays*, Nucl. Phys. **B874** (2013) 663, arXiv:1305.6511.

[781] LHCb collaboration, R. Aaij *et al.*, *Measurement of the polarization amplitudes in $B^0 \to J/\psi K^*(892)^0$ decays*, Phys. Rev. **D88** (2013) 052002, arXiv:1307.2782.

[782] LHCb collaboration, R. Aaij *et al.*, *Measurements of the branching fractions of the decays $B_s^0 \to \overline{D}^0 K^- \pi^+$ and $B^0 \to \overline{D}^0 K^+ \pi^-$*, Phys. Rev. **D87** (2013) 112009, arXiv:1304.6317.

[783] LHCb collaboration, R. Aaij *et al.*, *First observation of the decay $B_c^+ \to J/\psi K^+$*, JHEP **09** (2013) 075, arXiv:1306.6723.

[784] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CKM angle γ from a combination of $B^\pm \to Dh^\pm$ analyses*, Phys. Lett. **B726** (2013) 151, arXiv:1305.2050.

[785] LHCb collaboration, R. Aaij *et al.*, *Differential branching fraction and angular analysis of the decay $B^0 \to K^{*0} \mu^+ \mu^-$*, JHEP **08** (2013) 131, arXiv:1304.6325.

[786] LHCb collaboration, R. Aaij *et al.*, *First observation of CP violation in the decays of B_s^0 mesons*, Phys. Rev. Lett. **110** (2013) 221601, arXiv:1304.6173.

[787] LHCb collaboration, R. Aaij *et al.*, *Differential branching fraction and angular analysis of the decay $B_s^0 \to \phi \mu^+ \mu^-$*, JHEP **07** (2013) 084, arXiv:1305.2168.

[788] LHCb collaboration, R. Aaij *et al.*, *Production of J/ψ and Υ mesons in pp collisions at $\sqrt{s} = 8$ TeV*, JHEP **06** (2013) 064, arXiv:1304.6977.

[789] LHCb collaboration, R. Aaij *et al.*, *Measurement of the effective $B_s^0 \to J/\psi K_S^0$ lifetime*, Nucl. Phys. **B873** (2013) 275, arXiv:1304.4500.

[790] LHCb collaboration, R. Aaij *et al.*, *Searches for violation of lepton flavour and baryon number in tau lepton decays at LHCb*, Phys. Lett. **B724** (2013) 36, arXiv:1304.4518.

[791] LHCb collaboration, R. Aaij *et al.*, *Search for the rare decay $D^0 \to \mu^+ \mu^-$*, Phys. Lett. **B725** (2013) 15, arXiv:1305.5059.

[792] LHCb collaboration, R. Aaij *et al.*, *First observation of the decay $B_s^0 \to \phi \overline{K}^{*0}$*, JHEP **11** (2013) 092, arXiv:1306.2239.

[793] LHCb collaboration, R. Aaij *et al.*, *Observation of $B_c^+ \to J/\psi D_s^+$ and $B_c^+ \to J/\psi D_s^{*+}$ decays*, Phys. Rev. **D87** (2013) 112012, arXiv:1304.4530.

[794] LHCb collaboration, R. Aaij *et al.*, *Limits on neutral Higgs boson production in the forward region in pp collisions at $\sqrt{s} = 7$ TeV*, JHEP **05** (2013) 132, arXiv:1304.2591.

[795] LHCb collaboration, R. Aaij *et al.*, *Measurement of J/ψ polarization in pp collisions at $\sqrt{s} = 7$ TeV*, Eur. Phys. J. **C73** (2013) 2631, arXiv:1307.6379.

[796] LHCb collaboration, R. Aaij *et al.*, *First measurement of the CP-violating phase in $B_s^0 \to \phi\phi$ decays*, Phys. Rev. Lett. **110** (2013) 241802, arXiv:1303.7125.

[797] LHCb collaboration, R. Aaij *et al.*, *Precision measurement of the B_s^0–$\overline{B}_s^0$ oscillation frequency in the decay $B_s^0 \to D_s^- \pi^+$*, New J. Phys. **15** (2013) 053021, arXiv:1304.4741.

[798] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $B^0 \to K^{*0}e^+e^-$ branching fraction at low dilepton mass*, JHEP **05** (2013) 159, arXiv:1304.3035.

[799] LHCb collaboration, R. Aaij *et al.*, *Measurement of B meson production cross-sections in proton-proton collisions at $\sqrt{s}$ = 7 TeV*, JHEP **08** (2013) 117, arXiv:1306.3663.

[800] LHCb collaboration, R. Aaij *et al.*, *Search for direct CP violation in $D^0 \to h^-h^+$ modes using semileptonic B decays*, Phys. Lett. **B723** (2013) 33, arXiv:1303.2614.

[801] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP violation and the B^0_s meson decay width difference with $B^0_s \to J/\psi K^+K^-$ and $B^0_s \to J/\psi\pi^+\pi^-$ decays*, Phys. Rev. **D87** (2013) 112010, arXiv:1304.2600.

[802] LHCb collaboration, R. Aaij *et al.*, *Determination of the X(3872) meson quantum numbers*, Phys. Rev. Lett. **110** (2013) 222001, arXiv:1302.6269.

[803] LHCb collaboration, R. Aaij *et al.*, *Measurements of the $\Lambda^0_b \to J/\psi\Lambda$ decay amplitudes and the Λ^0_b polarisation in pp collisions at $\sqrt{s}$ = 7 TeV*, Phys. Lett. **B724** (2013) 27, arXiv:1302.5578.

[804] LHCb collaboration, R. Aaij *et al.*, *Search for the decay $B^0_s \to D^{*\mp}_s\pi^\pm$*, Phys. Rev. **D87** (2013) 071101(R), arXiv:1302.6446.

[805] LHCb collaboration, R. Aaij *et al.*, *Observation of the suppressed ADS modes $B^\pm \to [\pi^\pm K^\mp\pi^+\pi^-]_D K^\pm$ and $B^\pm \to [\pi^\pm K^\mp\pi^+\pi^-]_D\pi^\pm$*, Phys. Lett. **B723** (2013) 44, arXiv:1303.4646.

[806] LHCb collaboration, R. Aaij *et al.*, *Observation of the decay $B^+_c \to \psi(2S)\pi^+$*, Phys. Rev. **D87** (2013) 071103(R), arXiv:1303.1737.

[807] LHCb collaboration, R. Aaij *et al.*, *Observations of $B^0_s \to \psi(2S)\eta$ and $B^0_{(s)} \to \psi(2S)\pi^+\pi^-$ decays*, Nucl. Phys. **B871** (2013) 403, arXiv:1302.6354.

[808] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in $D^+ \to \phi\pi^+$ and $D^+_s \to K^0_S\pi^+$ decays*, JHEP **06** (2013) 112, arXiv:1303.4906.

[809] LHCb collaboration, R. Aaij *et al.*, *Search for $D^+_{(s)} \to \pi^+\mu^+\mu^-$ and $D^+_{(s)} \to \pi^-\mu^+\mu^+$ decays*, Phys. Lett. **B724** (2013) 203, arXiv:1304.6365.

[810] LHCb collaboration, R. Aaij *et al.*, *First observations of $\overline{B}^0_s \to D^+D^-, D^+_sD^-$ and $D^0\overline{D}^0$ decays*, Phys. Rev. **D87** (2013) 092007, arXiv:1302.5854.

[811] LHCb collaboration, R. Aaij *et al.*, *Search for rare $B^0_{(s)} \to \mu^+\mu^-\mu^+\mu^-$ decays*, Phys. Rev. Lett. **110** (2013) 211801, arXiv:1303.1092.

[812] LHCb collaboration, R. Aaij *et al.*, *Measurements of the branching fractions of $B^+ \to p\overline{p}K^+$ decays*, Eur. Phys. J. **C73** (2013) 2462, arXiv:1303.7133.

[813] LHCb collaboration, R. Aaij *et al.*, *Study of $B^0 \to D^{*-}\pi^+\pi^-\pi^+$ and $B^0 \to D^{*-}K^+\pi^-\pi^+$ decays*, Phys. Rev. **D87** (2013) 092001, arXiv:1303.6861.

[814] LHCb collaboration, R. Aaij *et al.*, *Analysis of the resonant components in* $\overline{B}^0 \to J/\psi\pi^+\pi^-$, Phys. Rev. **D87** (2013) 052001, arXiv:1301.5347.

[815] LHCb collaboration, R. Aaij *et al.*, *Exclusive* J/ψ *and* $\psi(2S)$ *production in pp collisions at* $\sqrt{s} = 7$ *TeV*, J. Phys. **G40** (2013) 045001, arXiv:1301.7084.

[816] LHCb collaboration, R. Aaij *et al.*, *First evidence for the decay* $B^0_s \to \mu^+\mu^-$, Phys. Rev. Lett. **110** (2013) 021801, arXiv:1211.2674.

[817] LHCb collaboration, R. Aaij *et al.*, *Measurement of CP observables in* $B^0 \to DK^{*0}$ *with* $D \to K^+K^-$, JHEP **03** (2013) 067, arXiv:1212.5205.

[818] LHCb collaboration, R. Aaij *et al.*, *Prompt charm production in pp collisions at* $\sqrt{s} = 7$ *TeV*, Nucl. Phys. **B871** (2013) 1, arXiv:1302.2864.

[819] LHCb collaboration, R. Aaij *et al.*, *Amplitude analysis and branching fraction measurement of* $\overline{B}^0_s \to J/\psi K^+K^-$, Phys. Rev. **D87** (2013) 072004, arXiv:1302.1213.

[820] LHCb collaboration, R. Aaij *et al.*, *Measurement of* J/ψ *production in pp collisions at* $\sqrt{s} = 2.76$ *TeV*, JHEP **02** (2013) 041, arXiv:1212.1045.

[821] LHCb collaboration, R. Aaij *et al.*, *Observation of* D^0–$\overline{D}^0$ *oscillations*, Phys. Rev. Lett. **110** (2013) 101802, arXiv:1211.1230.

[822] LHCb collaboration, R. Aaij *et al.*, *Measurement of the fragmentation fraction ratio* f_s/f_d *and its dependence on B meson kinematics*, JHEP **04** (2013) 001, arXiv:1301.5286.

[823] LHCb collaboration, R. Aaij *et al.*, *Measurement of the cross-section for* $Z \to e^+e^-$ *production in pp collisions at* $\sqrt{s} = 7$ *TeV*, JHEP **02** (2013) 106, arXiv:1212.4620.

[824] LHCb collaboration, R. Aaij *et al.*, *Measurement of the time-dependent CP asymmetry in* $B^0 \to J/\psi K^0_S$ *decays*, Phys. Lett. **B721** (2013) 24, arXiv:1211.6093.

[825] LHCb collaboration, R. Aaij *et al.*, *Measurement of the forward energy flow in pp collisions at* $\sqrt{s} = 7$ *TeV*, Eur. Phys. J. **C73** (2013) 2421, arXiv:1212.4755.

[826] LHCb collaboration, R. Aaij *et al.*, *First observation of the decays* $\overline{B}^0_{(s)} \to D^+_s K^-\pi^+\pi^-$ *and* $\overline{B}^0_s \to D_{s1}(2536)^+\pi^-$, Phys. Rev. **D86** (2012) 112005, arXiv:1211.1541.

[827] LHCb collaboration, R. Aaij *et al.*, *Measurement of the* B^0–$\overline{B}^0$ *oscillation frequency* Δm_d *with the decays* $B^0 \to D^-\pi^+$ *and* $B^0 \to J/\psi K^{*0}$, Phys. Lett. **B719** (2013) 318, arXiv:1210.6750.

[828] LHCb collaboration, R. Aaij *et al.* , and A. Bharucha *et al.*, *Implications of LHCb measurements and future prospects*, Eur. Phys. J. **C73** (2013) 2373, arXiv:1208.3355.

[829] LHCb collaboration, R. Aaij *et al.*, *First observation of the decay* $B^*_{s2}(5840)^0 \to B^{*+}K^-$ *and studies of excited* B^0_s *mesons*, Phys. Rev. Lett. **110** (2013) 151803, arXiv:1211.5994.

[830] LHCb collaboration, R. Aaij *et al.*, *A study of the Z production cross-section in pp collisions at $\sqrt{s} = 7$ TeV using tau final states*, JHEP **01** (2013) 111, arXiv:1210.6289.

[831] LHCb collaboration, R. Aaij *et al.*, *Measurements of B_c^+ production and mass with the $B_c^+ \to J/\psi\pi^+$ decay*, Phys. Rev. Lett. **109** (2012) 232001, arXiv:1209.5634.

[832] LHCb collaboration, R. Aaij *et al.*, *A model-independent Dalitz plot analysis of $B^\pm \to DK^\pm$ with $D \to K_S^0 h^+h^-$ ($h = \pi, K$) decays and constraints on the CKM angle γ*, Phys. Lett. **B718** (2012) 43, arXiv:1209.5869.

[833] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $D^\pm$ production asymmetry in 7 TeV pp collisions*, Phys. Lett. **B718** (2013) 902, arXiv:1210.4112.

[834] LHCb collaboration, R. Aaij *et al.*, *First evidence for the annihilation decay mode $B^+ \to D_s^+\phi$*, JHEP **02** (2013) 043, arXiv:1210.1089.

[835] LHCb collaboration, R. Aaij *et al.*, *Differential branching fraction and angular analysis of the $B^+ \to K^+\mu^+\mu^-$ decay*, JHEP **02** (2013) 105, arXiv:1209.4284.

[836] LHCb collaboration, R. Aaij *et al.*, *Search for the rare decay $K_S^0 \to \mu^+\mu^-$*, JHEP **01** (2013) 090, arXiv:1209.4029.

[837] LHCb collaboration, R. Aaij *et al.*, *Evidence for the decay $B^0 \to J/\psi\omega$ and measurement of the relative branching fractions of B_s^0 meson decays to $J/\psi\eta$ and $J/\psi\eta'$*, Nucl. Phys. **B867** (2013) 547, arXiv:1210.2631.

[838] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP asymmetry in $B^0 \to K^{*0}\mu^+\mu^-$ decays*, Phys. Rev. Lett. **110** (2013) 031801, arXiv:1210.4492.

[839] LHCb collaboration, R. Aaij *et al.*, *First observation of the decay $B^+ \to \pi^+\mu^+\mu^-$*, JHEP **12** (2012) 125, arXiv:1210.2645.

[840] LHCb collaboration, R. Aaij *et al.*, *Measurement of the ratio of branching fractions $\mathcal{B}(B^0 \to K^{*0}\gamma)/\mathcal{B}(B_s^0 \to \phi\gamma)$ and the direct CP asymmetry in $B^0 \to K^{*0}\gamma$*, Nucl. Phys. **B867** (2013) 1, arXiv:1209.0313.

[841] LHCb collaboration, R. Aaij *et al.*, *Observation of $B^0 \to \overline{D}^0K^+K^-$ and evidence for $B_s^0 \to \overline{D}^0K^+K^-$*, Phys. Rev. Lett. **109** (2012) 131801, arXiv:1207.5991.

[842] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $\overline{B}_s^0$ effective lifetime in the $J/\psi f_0(980)$ final state*, Phys. Rev. Lett. **109** (2012) 152002, arXiv:1207.0878.

[843] LHCb collaboration, R. Aaij *et al.*, *Study of D_{sJ} decays to $D^+K_S^0$ and D^0K^+ final states in pp collisions*, JHEP **10** (2012) 151, arXiv:1207.6016.

[844] LHCb collaboration, R. Aaij *et al.*, *Measurement of the fraction of $\Upsilon(1S)$ originating from $\chi_b(1P)$ decays in pp collisions at $\sqrt{s} = 7$ TeV*, JHEP **11** (2012) 031, arXiv:1209.0282.

[845] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $B_s^0 \to J/\psi\overline{K}^{*0}$ branching fraction and angular amplitudes*, Phys. Rev. **D86** (2012) 071102(R), arXiv:1208.0738.

[846] LHCb collaboration, R. Aaij *et al.*, *Measurement of the effective $B_s^0 \to K^+K^-$ lifetime*, Phys. Lett. **B716** (2012) 393, arXiv:1207.5993.

[847] LHCb collaboration, R. Aaij *et al.*, *Observation of excited Λ_b^0 baryons*, Phys. Rev. Lett. **109** (2012) 172003, arXiv:1205.3452.

[848] LHCb collaboration, R. Aaij *et al.*, *Measurement of the isospin asymmetry in $B \to K^*\mu^+\mu^-$ decays*, JHEP **07** (2012) 133, arXiv:1205.3422.

[849] LHCb collaboration, R. Aaij *et al.*, *Measurement of relative branching fractions of B decays to $\psi(2S)$ and J/ψ mesons*, Eur. Phys. J. **C72** (2012) 2118, arXiv:1205.0918.

[850] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $D_s^+ - D_s^-$ production asymmetry in 7 TeVpp collisions*, Phys. Lett. **B713** (2012) 186, arXiv:1205.0897.

[851] LHCb collaboration, R. Aaij *et al.*, *Inclusive W and Z production in the forward region at $\sqrt{s} = 7$ TeV*, JHEP **06** (2012) 058, arXiv:1204.1620.

[852] LHCb collaboration, R. Aaij *et al.*, *Strong constraints on the rare decays $B_s^0 \to \mu^+\mu^-$ and $B^0 \to \mu^+\mu^-$*, Phys. Rev. Lett. **108** (2012) 231801, arXiv:1203.4493.

[853] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP-violating phase ϕ_s in $\overline{B}_s^0 \to J/\psi\pi^+\pi^-$ decays*, Phys. Lett. **B713** (2012) 378, arXiv:1204.5675.

[854] LHCb collaboration, R. Aaij *et al.*, *Analysis of the resonant components in $\overline{B}_s^0 \to J/\psi\pi^+\pi^-$*, Phys. Rev. **D86** (2012) 052006, arXiv:1204.5643.

[855] LHCb collaboration, R. Aaij *et al.*, *Measurement of the polarization amplitudes and triple product asymmetries in the $B_s^0 \to \phi\phi$ decay*, Phys. Lett. **B713** (2012) 369, arXiv:1204.2813.

[856] LHCb collaboration, R. Aaij *et al.*, *Observation of double charm production involving open charm in pp collisions at $\sqrt{s} = 7$ TeV*, JHEP **06** (2012) 141, Addendum ibid. **03** (2014) 108, arXiv:1205.0975.

[857] LHCb collaboration, R. Aaij *et al.*, *Measurement of b-hadron branching fractions for two-body decays into charmless charged hadrons*, JHEP **10** (2012) 037, arXiv:1206.2794.

[858] LHCb collaboration, R. Aaij *et al.*, *Observation of CP violation in $B^\pm \to DK^\pm$ decays*, Phys. Lett. **B712** (2012) 203, Erratum ibid. **B713** (2012) 351, arXiv:1203.3662.

[859] LHCb collaboration, R. Aaij *et al.*, *Measurement of $\psi(2S)$ meson production in pp collisions at $\sqrt{s} = 7$ TeV*, Eur. Phys. J. **C72** (2012) 2100, Erratum ibid. **C80** (2020) 49, arXiv:1204.1258.

[860] LHCb collaboration, R. Aaij *et al.*, *First observation of the decay $B_c^+ \to J/\psi\pi^+\pi^-\pi^+$*, Phys. Rev. Lett. **108** (2012) 251802, arXiv:1204.0079.

[861] LHCb collaboration, R. Aaij *et al.*, *Measurement of the $B^\pm$ production cross-section in pp collisions at $\sqrt{s} = 7$ TeV*, JHEP **04** (2012) 093, arXiv:1202.4812.

[862] LHCb collaboration, R. Aaij *et al.*, *Measurement of the ratio of branching fractions* $\mathcal{B}(B^0 \to K^{*0}\gamma)/\mathcal{B}(B_s^0 \to \phi\gamma)$, Phys. Rev. **D85** (2012) 112013, arXiv:1202.6267.

[863] LHCb collaboration, R. Aaij *et al.*, *Measurement of the* $B_s^0 \to J/\psi K_S^0$ *branching fraction*, Phys. Lett. **B713** (2012) 172, arXiv:1205.0934.

[864] LHCb collaboration, R. Aaij *et al.*, *First observation of the decays* $\overline{B}^0 \to D^+K^-\pi^+\pi^-$ *and* $B^- \to D^0K^-\pi^+\pi^-$, Phys. Rev. Lett. **108** (2012) 161801, arXiv:1201.4402.

[865] LHCb collaboration, R. Aaij *et al.*, *Searches for Majorana neutrinos in* B^- *decays*, Phys. Rev. **D85** (2012) 112004, arXiv:1201.5600.

[866] LHCb collaboration, R. Aaij *et al.*, *Measurement of prompt hadron production ratios in pp collisions at* $\sqrt{s} = 0.9$ *and 7 TeV*, Eur. Phys. J. **C72** (2012) 2168, arXiv:1206.5160.

[867] LHCb collaboration, R. Aaij *et al.*, *Measurement of* Υ *production in pp collisions at* $\sqrt{s} = 7$ *TeV*, Eur. Phys. J. **C72** (2012) 2025, arXiv:1202.6579.

[868] LHCb collaboration, R. Aaij *et al.*, *Measurement of b-hadron masses*, Phys. Lett. **B708** (2012) 241, arXiv:1112.4896.

[869] LHCb collaboration, R. Aaij *et al.*, *Observation of* $X(3872)$ *production in pp collisions at* $\sqrt{s} = 7$ *TeV*, Eur. Phys. J. **C72** (2012) 1972, arXiv:1112.5310.

[870] LHCb collaboration, R. Aaij *et al.*, *Search for the* $X(4140)$ *state in* $B^+ \to J/\psi\phi K^+$ *decays*, Phys. Rev. **D85** (2012) 091103(R), arXiv:1202.5087.

[871] LHCb collaboration, R. Aaij *et al.*, *Measurement of mixing and CP violation parameters in two-body charm decays*, JHEP **04** (2012) 129, arXiv:1112.4698.

[872] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP violating phase* ϕ_s *in* $\overline{B}_s^0 \to J/\psi f_0(980)$, Phys. Lett. **B707** (2012) 497, arXiv:1112.3056.

[873] LHCb collaboration, R. Aaij *et al.*, *Measurement of the ratio of prompt* χ_c *to* J/ψ *production in pp collisions at* $\sqrt{s} = 7$ *TeV*, Phys. Lett. **B718** (2012) 431, arXiv:1204.1462.

[874] LHCb collaboration, R. Aaij *et al.*, *First evidence of direct CP violation in charmless two-body decays of* B_s^0 *mesons*, Phys. Rev. Lett. **108** (2012) 201601, arXiv:1202.6251.

[875] LHCb collaboration, R. Aaij *et al.*, *Determination of the sign of the decay width difference in the* B_s^0 *system*, Phys. Rev. Lett. **108** (2012) 241801, arXiv:1202.4717.

[876] LHCb collaboration, R. Aaij *et al.*, *Observation of* $\overline{B}_s^0 \to J/\psi f_2'(1525)$ *in* $J/\psi K^+K^-$ *final states*, Phys. Rev. Lett. **108** (2012) 151801, arXiv:1112.4695.

[877] LHCb collaboration, R. Aaij *et al.*, *Search for the rare decays* $B_s^0 \to \mu^+\mu^-$ *and* $B^0 \to \mu^+\mu^-$, Phys. Lett. **B708** (2012) 55, arXiv:1112.1600.

[878] LHCb collaboration, R. Aaij *et al.*, *Measurements of the branching fractions and CP asymmetries of $B^{\pm} \to J/\psi\pi^{\pm}$ and $B^{\pm} \to \psi(2S)\pi^{\pm}$ decays*, Phys. Rev. **D85** (2012) 091105(R), arXiv:1203.3592.

[879] LHCb collaboration, R. Aaij *et al.*, *Evidence for CP violation in time-integrated $D^0 \to h^-h^+$ decay rates*, Phys. Rev. Lett. **108** (2012) 111602, arXiv:1112.0938.

[880] LHCb collaboration, R. Aaij *et al.*, *Measurements of the branching fractions of the decays $B^0_s \to D^{\mp}_s K^{\pm}$ and $B^0_s \to D^-_s \pi^+$*, JHEP **06** (2012) 115, arXiv:1204.1237.

[881] LHCb collaboration, R. Aaij *et al.*, *Measurement of the CP-violating phase ϕ_s in the decay $B^0_s \to J/\psi\phi$*, Phys. Rev. Lett. **108** (2012) 101803, arXiv:1112.3183.

[882] LHCb collaboration, R. Aaij *et al.*, *Differential branching fraction and angular analysis of the decay $B^0 \to K^{*0}\mu^+\mu^-$*, Phys. Rev. Lett. **108** (2012) 181806, arXiv:1112.3515.

[883] LHCb collaboration, R. Aaij *et al.*, *Measurement of the cross-section ratio $\sigma(\chi_{c2})/\sigma(\chi_{c1})$ for prompt χ_c production at $\sqrt{s} = 7$ TeV*, Phys. Lett. **B714** (2012) 215, arXiv:1202.1080.

[884] LHCb collaboration, R. Aaij *et al.*, *Measurement of b hadron production fractions in 7 TeV pp collisions*, Phys. Rev. **D85** (2012) 032008, arXiv:1111.2357.

[885] LHCb collaboration, R. Aaij *et al.*, *Search for CP violation in $D^+ \to K^-K^+\pi^+$ decays*, Phys. Rev. **D84** (2011) 112008, arXiv:1110.3970.

[886] LHCb collaboration, R. Aaij *et al.*, *Measurements of the branching fractions for $B^0_{(s)} \to D_{(s)}\pi\pi\pi$ and $\Lambda^0_b \to \Lambda^+_c\pi\pi\pi$*, Phys. Rev. **D84** (2011) 092001, Erratum ibid. **D85** (2012) 039904, arXiv:1109.6831.

[887] LHCb collaboration, R. Aaij *et al.*, *Absolute luminosity measurements with the LHCb detector at the LHC*, JINST **7** (2012) P01010, arXiv:1110.2866.

[888] LHCb collaboration, R. Aaij *et al.*, *Measurement of the effective $B^0_s \to K^+K^-$ lifetime*, Phys. Lett. **B707** (2012) 349, arXiv:1111.0521.

[889] LHCb collaboration, R. Aaij *et al.*, *Observation of J/ψ-pair production in pp collisions at $\sqrt{s} = 7$ TeV*, Phys. Lett. **B707** (2012) 52, arXiv:1109.0963.

[890] LHCb collaboration, R. Aaij *et al.*, *First observation of the decay $B^0_s \to K^{*0}\overline{K}^{*0}$*, Phys. Lett. **B709** (2012) 50, arXiv:1111.4183.

[891] LHCb collaboration, R. Aaij *et al.*, *Measurement of charged particle multiplicities in pp collisions at $\sqrt{s} = 7$ TeV in the forward region*, Eur. Phys. J. **C72** (2012) 1947, arXiv:1112.4592.

[892] LHCb collaboration, R. Aaij *et al.*, *Measurement of the B^0_s–$\overline{B}^0_s$ oscillation frequency Δm_s in $B^0_s \to D^-_s(3)\pi$ decays*, Phys. Lett. **B709** (2012) 177, arXiv:1112.4311.

[893] LHCb collaboration, R. Aaij *et al.*, *Search for lepton number violating decays $B^+ \to \pi^-\mu^+\mu^+$ and $B^+ \to K^-\mu^+\mu^+$*, Phys. Rev. Lett. **108** (2012) 101601, arXiv:1110.0730.

[894] LHCb collaboration, R. Aaij *et al.*, *First observation of the decay $\overline{B}{}^0_s \to D^0 K^{*0}$ and a measurement of the ratio of branching fractions $\frac{\mathcal{B}(\overline{B}{}^0_s \to D^0 K^{*0})}{\mathcal{B}(\overline{B}{}^0 \to D^0 \rho^0)}$*, Phys. Lett. **B706** (2011) 32, arXiv:1110.3676.

[895] LHCb collaboration, R. Aaij *et al.*, *Measurement of the inclusive ϕ cross-section in pp collisions at $\sqrt{s} = 7$ TeV*, Phys. Lett. **B703** (2011) 267, arXiv:1107.3935.

[896] LHCb collaboration, R. Aaij *et al.*, *Determination of f_s/f_d for 7 TeVpp collisions and measurement of the $B^0 \to D^- K^+$ branching fraction*, Phys. Rev. Lett. **107** (2011) 211801, arXiv:1106.4435.

[897] LHCb collaboration, R. Aaij *et al.*, *Measurement of V^0 production ratios in pp collisions at $\sqrt{s} = 0.9$ and 7 TeV*, JHEP **08** (2011) 034, arXiv:1107.0882.

[898] LHCb collaboration, R. Aaij *et al.*, *Search for the rare decays $B^0_s \to \mu^+\mu^-$ and $B^0 \to \mu^+\mu^-$*, Phys. Lett. **B699** (2011) 330, arXiv:1103.2465.

[899] LHCb collaboration, R. Aaij *et al.*, *Measurement of J/ψ production in pp collisions at $\sqrt{s} = 7$ TeV*, Eur. Phys. J. **C71** (2011) 1645, arXiv:1103.0423.

[900] LHCb collaboration, R. Aaij *et al.*, *First observation of $B^0_s \to J/\psi f_0(980)$ decays*, Phys. Lett. **B698** (2011) 115, arXiv:1102.0206.

[901] LHCb collaboration, R. Aaij *et al.*, *First observation of $\overline{B}{}^0_s \to D^{*+}_{s2} X \mu^- \overline{\nu}$ decays*, Phys. Lett. **B698** (2011) 14, arXiv:1102.0348.

[902] LHCb collaboration, R. Aaij *et al.*, *Measurement of $\sigma(pp \to b\overline{b}X)$ at $\sqrt{s} = 7$ TeV in the forward region*, Phys. Lett. **B694** (2010) 209, arXiv:1009.2731.

[903] LHCb collaboration, R. Aaij *et al.*, *Prompt K^0_S production in pp collisions at $\sqrt{s} = 0.9$ TeV*, Phys. Lett. **B693** (2010) 69, arXiv:1008.3105.

[904] LHCb collaboration, *Simultaneous determination of the CKM angle γ and parameters related to mixing and CP violation in the charm sector*, LHCb-CONF-2024-004, 2024.

[905] LHCb collaboration, *TBD*, LHCb-CONF-2024-003, 2024.

[906] LHCb collaboration, *TBD*, LHCb-CONF-2024-002, 2024.

[907] LHCb collaboration, *Observation of $J/\psi \to 4\mu$*, LHCb-CONF-2024-001, 2024.

[908] LHCb collaboration, *Measurement of CP asymmetry in $B^0_s \to D^{\mp}_s K^{\pm}$ decays*, LHCb-CONF-2023-004, 2023.

[909] LHCb collaboration, *Study of CP-violation in $B^0_{(s)} \to DK^*(892)^0$ decays with $D \to K\pi(\pi\pi)$, $\pi\pi(\pi\pi)$, and KK final states*, LHCb-CONF-2023-003, 2023, **Retired. Please cite LHCb-PAPER-2023-040 [201] instead.**

[910] LHCb collaboration, *Observation of antihypertriton in pp collisions with LHCb*, LHCb-CONF-2023-002, 2023.

[911] LHCb collaboration, *Study of Ξ_b^- and Ω_b^- decays to $\Lambda_c^+ h^- h'^-$ final states*, LHCb-CONF-2023-001, 2023, **Retired. Please cite LHCb-PAPER-2024-013 [181] instead.**

[912] LHCb collaboration, *Simultaneous determination of the CKM angle γ and parameters related to mixing and CP violation in the charm sector*, LHCb-CONF-2022-003, 2022.

[913] LHCb collaboration, *Modification of $\chi_{c1}(3872)$ and $\psi(2S)$ production in pPb collisions at $\sqrt{s_{NN}} = 8.16$ TeV*, LHCb-CONF-2022-001, 2022.

[914] LHCb collaboration, *TBD*, LHCb-CONF-2021-005, 2021.

[915] LHCb collaboration, *TBD*, LHCb-CONF-2021-004, 2021.

[916] LHCb collaboration, *TBD*, LHCb-CONF-2021-003, 2021.

[917] LHCb collaboration, *TBD*, LHCb-CONF-2021-002, 2021.

[918] LHCb collaboration, *First simultaneous determination of CKM angle γ and charm mixing parameters from a combination of LHCb measurements*, LHCb-CONF-2021-001, 2021.

[919] LHCb collaboration, *Updated LHCb combination of the CKM angle γ*, LHCb-CONF-2020-003, 2020.

[920] LHCb collaboration, *Combination of the ATLAS, CMS and LHCb results on the $B^0_{(s)} \to \mu^+\mu^-$ decays*, LHCb-CONF-2020-002, 2020, ATLAS-CONF-2020-049, CMS PAS BPH-20-003, LHCb-CONF-2020-002.

[921] LHCb collaboration, *Measurement of the CKM angle γ in $B^\pm \to DK^\pm$ and $B^\pm \to D\pi^\pm$ decays with $D \to K_S h^+ h^-$*, LHCb-CONF-2020-001, 2020, **Retired. Please cite LHCb-PAPER-2020-019 [382] instead.**

[922] LHCb collaboration, *Multiplicity-dependent modification of $\chi_{c1}(3872)$ and $\psi(2S)$ production in pp collisions at $\sqrt{s} = 8$ TeV*, LHCb-CONF-2019-005, 2019.

[923] LHCb collaboration, *Study of prompt D^0 meson production in p Pb at $\sqrt{s_{NN}}$ = 8.16 TeV at LHCb*, LHCb-CONF-2019-004, 2019.

[924] LHCb collaboration, *Measurement of the Z production cross-sections in pPb collisions at $\sqrt{=}8$ TeV*, LHCb-CONF-2019-003, 2019.

[925] LHCb collaboration, *Search for $K^0_S \to \mu^+\mu^-$ with the full LHCb data*, LHCb-CONF-2019-002, 2019.

[926] LHCb collaboration, *Search for time-dependent CP violation in $D^0 \to K^+K^-$ and $D^0 \to \pi^+\pi^-$ decays*, LHCb-CONF-2019-001, 2019.

[927] LHCb collaboration, *Prospects for searches for long-lived particles after the LHCb detector upgrades*, LHCb-CONF-2018-006, 2018.

[928] LHCb collaboration, *LHCb measurement projections in proton-lead collisions during Run 3 and 4*, LHCb-CONF-2018-005, 2018.

[929] LHCb collaboration, *B^+, B^0 and Λ_b^0 production and nuclear modification in pPb collisions at $\sqrt{s_{NN}} = 8.16$ TeV*, LHCb-CONF-2018-004, 2018, **Retired. Please cite LHCb-PAPER-2018-048 [450] instead.**

[930] LHCb collaboration, *Study of coherent production of J/ψ in lead-lead collisions at $\sqrt{s_{NN}} = 5$ TeV with the LHCb experiment*, LHCb-CONF-2018-003, 2018.

[931] LHCb collaboration, *Update of the LHCb combination of the CKM angle γ using $B \to DK$ decays*, LHCb-CONF-2018-002, 2018.

[932] LHCb collaboration, *Measurement of CP violation in the $B_s^0 \to \phi\phi$ decay and search for the $B^0 \to \phi\phi$ decay*, LHCb-CONF-2018-001, 2018, **Retired. Please cite LHCb-PAPER-2019-019 [428] instead.**

[933] LHCb collaboration, *Prompt Λ_c^+ production in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV*, LHCb-CONF-2017-005, 2017, **Retired. Please cite LHCb-PAPER-2018-021 [477] instead.**

[934] LHCb collaboration, *Measurement of the CKM angle γ from a combination of $B \to DK$ analyses*, LHCb-CONF-2017-004, 2017, **Retired. Please cite LHCb-CONF-2018-002 [931] instead.**

[935] LHCb collaboration, *Abandoned — not to be used*, LHCb-CONF-2017-003, 2017.

[936] LHCb collaboration, *Measurement of antiproton production in pHe collisions at $\sqrt{s_{NN}} = 110$ GeV*, LHCb-CONF-2017-002, 2017, **Retired. Please cite LHCb-PAPER-2018-031 [467] instead.**

[937] LHCb collaboration, *Measurement of J/ψ and D^0 production in pAr collisions at $\sqrt{s_{NN}} = 110$ GeV*, LHCb-CONF-2017-001, 2017, **Retired. Please cite LHCb-PAPER-2018-023 [475] instead.**

[938] LHCb collaboration, *Measurement of time-dependent CP violating asymmetries in $B^0 \to \pi^+\pi^-$ and $B_s^0 \to K^+K^-$ decays at LHCb*, LHCb-CONF-2016-018, 2017, **Retired. Please cite LHCb-PAPER-2018-006 [492] instead.**

[939] LHCb collaboration, *First observation of a baryonic B_s^0 decay*, LHCb-CONF-2016-016, 2017, **Retired. Please cite LHCb-PAPER-2017-012 [535] instead.**

[940] LHCb collaboration, *Measurement of CP asymmetry in $B_s^0 \to D_s^{\mp} K^{\pm}$ decays*, LHCb-CONF-2016-015, 2017, **Retired. Please cite LHCb-PAPER-2017-047 [501] instead.**

[941] LHCb collaboration, *Study of the decay $B^{\pm} \to DK^{*\pm}$ with two-body D decays*, LHCb-CONF-2016-014, 2016, **Retired. Please cite LHCb-PAPER-2017-030 [517] instead.**

[942] LHCb collaboration, *Evidence for the rare decay $\Sigma^+ \to p\mu^+\mu^-$*, LHCb-CONF-2016-013, 2016, **Retired. Please cite LHCb-PAPER-2017-030 [499] instead.**

[943] LHCb collaboration, *Search for the decay $K^0_S \to \mu^+\mu^-$*, LHCb-CONF-2016-012, 2016, **Retired. Please cite LHCb-PAPER-2017-009 [538] instead.**

[944] LHCb collaboration, *Search for the rare decays $B^0_{(s)} \to \tau^+\tau^-$*, LHCb-CONF-2016-011, 2016, **Retired. Please cite LHCb-PAPER-2017-003 [544] instead.**

[945] LHCb collaboration, *CP-violating asymmetries from the decay time distribution of promt $D^0 \to K^+K^-$ and $D^0 \to \pi^+\pi^-$ decays in the full LHCb Run 1 data sample. Measurement using unbinned, acceptance corrected decay-time*, LHCb-CONF-2016-010, 2016, **Retired. Please cite LHCb-PAPER-2016-063 [549] instead.**

[946] LHCb collaboration, *CP-violating asymmetries from the decay time distribution of promt $D^0 \to K^+K^-$ and $D^0 \to \pi^+\pi^-$ decays in the full LHCb Run 1 data sample. Measurement using yield asymmetries in bins of decay time*, LHCb-CONF-2016-009, 2016, **Retired. Please cite LHCb-PAPER-2016-063 [549] instead.**

[947] LHCb collaboration, *Dalitz plot analysis of the $D^+ \to K^-K^+K^+$ decay with the isobar model*, LHCb-CONF-2016-008, 2016.

[948] LHCb collaboration, *Central exclusive production of J/ψ and $\psi(2S)$ mesons in pp collisions at $\sqrt{s} = 13\ TeV$*, LHCb-CONF-2016-007, 2016, **Retired. Please cite LHCb-PAPER-2018-011 [487] instead.**

[949] LHCb collaboration, *Search for $H^0 \to b\bar{b}$ or $c\bar{c}$ in association with a W or Z boson in the forward region of pp collisions*, LHCb-CONF-2016-006, 2016.

[950] LHCb collaboration, *LHCb dimuon and charm mass distributions*, LHCb-CONF-2016-005, 2016.

[951] LHCb collaboration, *Search for structure in the $B^0_s\pi^\pm$ invariant mass spectrum*, LHCb-CONF-2016-004, 2016, **Retired. Please cite LHCb-PAPER-2016-029 [581] instead.**

[952] LHCb collaboration, *Study of cold nuclear matter effect using prompt D^0 meson production in pPb collisions at LHCb*, LHCb-CONF-2016-003, 2016, **Retired. Please cite LHCb-PAPER-2017-015 [532] instead.**

[953] LHCb collaboration, *Measurement of the $Z \to \mu\mu$ production cross-section at forward rapidities in pp collisions at $\sqrt{s} = 13\ TeV$*, LHCb-CONF-2016-002, 2016, **Retired. Please cite LHCb-PAPER-2016-021 [589] instead.**

[954] LHCb collaboration, *LHCb γ combination update from $B \to DKX$ decays*, LHCb-CONF-2016-001, 2016, **Retired. Please cite LHCb-PAPER-2016-032 [84] instead.**

[955] LHCb collaboration, *Study of $\psi(2S)$ production and cold nuclear matter effects in pPb collisions at $\sqrt{s_{NN}} = 5\ TeV$*, LHCb-CONF-2015-005, 2015, **Retired. Please cite LHCb-PAPER-2015-058 [612] instead.**

[956] LHCb collaboration, *First measurements of long-range near-side angular correlations in $\sqrt{s_{NN}} = 5$ TeV proton-lead collisions in the forward region*, LHCb-CONF-2015-004, 2015, **Retired. Please cite LHCb-PAPER-2015-040 [629] instead.**

[957] LHCb collaboration, *Measurement of the B^0 oscillation frequency Δm_d with $B^0 \to D^{(*)-}\mu^+\nu_\mu$*, LHCb-CONF-2015-003, 2015, **Retired. Please cite LHCb-PAPER-2015-031 [638] instead.**

[958] LHCb collaboration, *Angular analysis of the $B_d^0 \to K^{*0}\mu^+\mu^-$ decay*, LHCb-CONF-2015-002, 2015, **Retired. Please cite LHCb-PAPER-2015-051 [618] instead.**

[959] LHCb collaboration, *Study of the decay $B^+ \to K^+\pi^0$ at LHCb*, LHCb-CONF-2015-001, 2015.

[960] LHCb collaboration, *Improved constraints on γ: CKM2014 update*, LHCb-CONF-2014-004, 2014, **Retired. Please cite LHCb-CONF-2016-001 [954] instead.**

[961] ALICE and LHCb collaborations, *Reference pp cross-sections for $\Upsilon(1S)$ studies in proton-lead collisions at $\sqrt{s_{NN}} = 5.02$ TeV and comparisons between ALICE and LHCb results*, 2014. LHCb-CONF-2014-003 ; ALICE-PUBLIC-2014-002.

[962] LHCb collaboration, *Measurement of the forward W boson cross-section in pp collisions at $\sqrt{s} = 7$ TeV*, LHCb-CONF-2014-002, 2014, **Retired. Please cite LHCb-PAPER-2014-033 [704] instead.**

[963] LHCb collaboration, *A search for heavy long-lived stau pair production in the LHCb detector*, LHCb-CONF-2014-001, 2014, **Retired. Please cite LHCb-PAPER-2015-002 [665] instead.**

[964] ALICE and LHCb collaborations, *Reference pp cross-sections for J/ψ studies in proton-lead collisions at $\sqrt{s_{NN}} = 5.02$ TeV and comparisons between ALICE and LHCb results*, 2013. LHCb-CONF-2013-013, ALICE-PUBLIC-2013-002.

[965] CMS and LHCb collaborations, *Combination of results on the rare decays $B^0_{(s)} \to \mu^+\mu^-$ from the CMS and LHCb experiments*, 2013. CMS-PAS-BPH-13-007, LHCb-CONF-2013-012. **Retired. Please cite LHCb-PAPER-2014-049 [688] instead.**

[966] LHCb collaboration, *Updated average f_s/f_d b-hadron production fraction ratio for 7 TeV pp collisions*, LHCb-CONF-2013-011, 2013.

[967] LHCb collaboration, *Search for the $\Lambda_b^0 \to \Lambda\eta'$ decay at LHCb*, LHCb-CONF-2013-010, 2013, **Retired. Please cite LHCb-PAPER-2015-019 [648] instead.**

[968] LHCb collaboration, *CP and up-down asymmetries in $B^\pm \to K^\pm\pi^\mp\pi^\pm\gamma$ decays*, LHCb-CONF-2013-009, 2013, **Retired. Please cite LHCb-PAPER-2014-001 [735] instead.**

[969] LHCb collaboration, *Study of the J/ψ production cross-section in proton-lead collisions at $\sqrt{s_{NN}} = 5$ TeV*, LHCb-CONF-2013-008, 2013, **Retired. Please cite LHCb-PAPER-2013-052 [753] instead.**

[970] LHCb collaboration, *Measurement of the cross section for $Z \to \mu^+\mu^-$ production with 1.0 fb^{-1} of pp collisions at $\sqrt{s}$ = 7 TeV*, LHCb-CONF-2013-007, 2013, **Retired. Please cite LHCb-PAPER-2015-001 [666] instead.**

[971] LHCb collaboration, *A measurement of γ from a combination of $B^\pm \to DK^\pm$ analyses including first results using 2 fb^{-1} of 2012 data*, LHCb-CONF-2013-006, 2013, **Retired. Please do not cite it (There is no direct paper replacement)..**

[972] LHCb collaboration, *Graphical comparison of the LHCb measurements of W and Z boson production with ATLAS and CMS*, LHCb-CONF-2013-005, 2013.

[973] LHCb collaboration, *Model-independent measurement of CP violation parameters in $B^\pm \to (K^0_S h^+ h^-)_D K^\pm$ decays*, LHCb-CONF-2013-004, 2013, **Retired. Please cite LHCb-PAPER-2014-041 [696] instead.**

[974] LHCb collaboration, *A search for time-integrated CP violation in $D^0 \to K^-K^+$ and $D^0 \to \pi^-\pi^+$ decays*, LHCb-CONF-2013-003, 2013, **Retired. Please cite LHCb-PAPER-2015-055 [614] instead.**

[975] LHCb collaboration, *Measurement of $\sigma(b\bar{b})$ with inclusive final states*, LHCb-CONF-2013-002, 2013.

[976] LHCb collaboration, *Measurement of the forward-central $b\bar{b}$ production asymmetry at LHCb*, LHCb-CONF-2013-001, 2013, **Retired. Please cite LHCb-PAPER-2014-023 [714] instead.**

[977] LHCb collaboration, *First look at the pPb pilot run*, LHCb-CONF-2012-034, 2013.

[978] LHCb collaboration, *Optimization and calibration of the same-side kaon tagging algorithm using hadronic B^0_s decays in 2011 data*, LHCb-CONF-2012-033, 2012, **Retired. Please do not cite it (There is no direct paper replacement).**

[979] LHCb collaboration, *A measurement of γ from a combination of $B^+ \to Dh^+$ analyses*, LHCb-CONF-2012-032, 2012, **Retired. Please cite LHCb-PAPER-2013-020 [784] instead.**

[980] LHCb collaboration, *Studies of $\Lambda^0_b \to J/\psi\Lambda$ production in pp collisions at $\sqrt{s}$ = 7 TeV*, LHCb-CONF-2012-031, 2012.

[981] LHCb collaboration, *Search for the suppressed ADS modes $B^\pm \to [\pi^\pm K^\mp \pi^+\pi^-]_D K^\pm$ and $B^\pm \to [\pi^\pm K^\mp \pi^+\pi^-]_D \pi^\pm$*, LHCb-CONF-2012-030, 2012, **Retired. Please cite LHCb-PAPER-2012-055 [805] instead.**

[982] LHCb collaboration, *Measurement of the time-dependent CP-violation parameters in $B^0_s \to D^\mp_s K^\pm$*, LHCb-CONF-2012-029, 2012, **Retired. Please cite LHCb-PAPER-2014-038 [699] instead.**

[983] LHCb collaboration, *Evidence for CP violation in $B \to KK\pi$ and $B \to \pi\pi\pi$ decays*, LHCb-CONF-2012-028, 2012, **Retired. Please cite LHCb-PAPER-2013-051 [754] instead.**

[984] LHCb collaboration, *Search for the lepton flavour violating and baryon number violating decays $\tau^- \to \overline{p}\mu^+\mu^-$ and $\tau^- \to p\mu^-\mu^-$*, LHCb-CONF-2012-027, 2012, **Retired. Please cite LHCb-PAPER-2013-014 [790] instead.**

[985] LHCb collaboration, *Performance of flavor tagging algorithms optimised for the analysis of $B^0_s \to J/\psi\phi$*, LHCb-CONF-2012-026, 2012, **Retired. Please cite LHCb-PAPER-2013-002 [801] instead.**

[986] LHCb collaboration, *Production of J/ψ and $\Upsilon(1S)$, $\Upsilon(2S)$ and $\Upsilon(3S)$ mesons at $\sqrt{s}$ =8 TeV*, LHCb-CONF-2012-025, 2012, **Retired. Please cite LHCb-PAPER-2013-016 [788] instead.**

[987] LHCb collaboration, *Measurement of CP observables in $B^0 \to DK^{*0}$ with $D \to K^+K^-$*, LHCb-CONF-2012-024, 2012, **Retired. Please cite LHCb-PAPER-2012-042 [817] instead.**

[988] LHCb collaboration, *Branching fraction measurements of $B^0_{d,s}$ decays to $K^0_S hh'$ final states, including first observation of $B^0_s \to K_S K\pi$*, LHCb-CONF-2012-023, 2012, **Retired. Please cite LHCb-PAPER-2013-042 [763] instead.**

[989] LHCb collaboration, *Measurement of the flavour-specific CP violating asymmetry $a^s_{\rm sl}$ in B^0_s decays*, LHCb-CONF-2012-022, 2012, **Retired. Please cite LHCb-PAPER-2013-033 [771] instead.**

[990] LHCb collaboration, *First observation of $B^- \to D^0K^-\pi^+\pi^-$ decays to CP even final states*, LHCb-CONF-2012-021, 2012, **Retired. Please cite LHCb-PAPER-2015-020 [647] instead.**

[991] LHCb collaboration, *Observation of $\chi_b(3P)$ state at LHCb in pp collisions at $\sqrt{s}$ =7 TeV*, LHCb-CONF-2012-020, 2012, **Retired. Please cite LHCb-PAPER-2012-015 [844] instead.**

[992] LHCb collaboration, *Search for CP violation in $D^0 \to \pi^-\pi^+\pi^+\pi^-$ decays*, LHCb-CONF-2012-019, 2012, **Retired. Please cite LHCb-PAPER-2013-041 [764] instead.**

[993] LHCb collaboration, *Evidence for CP violation in $B \to K\pi\pi$ and $B \to KKK$ decays*, LHCb-CONF-2012-018, 2012, **Retired. Please cite LHCb-PAPER-2013-027 [777] instead.**

[994] LHCb collaboration, *Search for the rare decays $B^0_{(s)} \to \mu\mu$ at the LHC with the ATLAS, CMS and LHCb experiments*, LHCb-CONF-2012-017, 2012, **Retired. Please do not cite it (There is no direct paper replacement).**

[995] LHCb collaboration, *Measurement of jet production in $Z^0/\gamma^* \to \mu^+\mu^-$ events at LHCb in $\sqrt{s}$ =7 TeV pp collisions*, LHCb-CONF-2012-016, 2012, **Retired. Please cite LHCb-PAPER-2013-058 [747] instead.**

[996] LHCb collaboration, *Search for the lepton flavour violating decay $\tau^- \to \mu^+\mu^-\mu^-$* , LHCb-CONF-2012-015, 2012, **Retired. Please cite LHCb-PAPER-2013-014 [790] instead.**

[997] LHCb collaboration, *Search for (Higgs-like) bosons decaying into long-lived exotic particles*, LHCb-CONF-2012-014, 2012, **Retired. Please cite LHCb-PAPER-2016-014 [596] instead.**

[998] LHCb collaboration, *Measurement of the forward energy flow in pp collisions at* $\sqrt{s} = 7\,\text{TeV}$ *with the LHCb experiment*, LHCb-CONF-2012-012, 2012, **Retired. Please cite LHCb-PAPER-2012-034 [825] instead.**

[999] LHCb collaboration, *Measurement of the cross-section for* $Z^0 \to e^+e^-$ *production in pp collisions at* $\sqrt{s} = 7\,\text{TeV}$, LHCb-CONF-2012-011, 2012, **Retired. Please cite LHCb-PAPER-2012-036 [823] instead.**

[1000] LHCb collaboration, *Search for the rare decays* $B^0_s \to \mu^+\mu^-\mu^+\mu^-$ *and* $B^0_d \to \mu^+\mu^-\mu^+\mu^-$, LHCb-CONF-2012-010, 2012, **Retired. Please cite LHCb-PAPER-2012-049 [811] instead.**

[1001] LHCb collaboration, *First observations and branching fraction measurements of* $\overline{B}^0_s$ *to double-charm final states*, LHCb-CONF-2012-009, 2012, **Retired. Please cite LHCb-PAPER-2012-050 [810] instead.**

[1002] LHCb collaboration, *Differential branching fraction and angular analysis of the* $B^0 \to K^{*0}\mu^+\mu^-$ *decay*, LHCb-CONF-2012-008, 2012, **Retired. Please cite LHCb-PAPER-2013-019 [785] instead.**

[1003] LHCb collaboration, *Measurement of time-dependent CP violation in charmless two-body B decays*, LHCb-CONF-2012-007, 2012, **Retired. Please cite LHCb-PAPER-2013-040 [765] instead.**

[1004] LHCb collaboration, *First observation of* $B^+ \to \pi^+\mu^+\mu^-$, LHCb-CONF-2012-006, 2012, **Retired. Please cite LHCb-PAPER-2012-020 [839] instead.**

[1005] LHCb collaboration, *Search for the* $D^0 \to \mu^+\mu^-$ *decay with* $0.9\,fb^{-1}$ *at LHCb*, LHCb-CONF-2012-005, 2012, **Retired. Please cite LHCb-PAPER-2013-013 [791] instead.**

[1006] LHCb collaboration, *Measurement of the direct CP asymmetry in the* $B^0_d \to K^{*0}\gamma$ *decay*, LHCb-CONF-2012-004, 2012, **Retired. Please cite LHCb-PAPER-2012-019 [840] instead.**

[1007] LHCb collaboration, *Measurement of the ratio of branching fractions for* $B^0_s \to \phi\mu\mu$ *and* $B^0_s \to J/\psi\phi$, LHCb-CONF-2012-003, 2012, **Retired. Please cite LHCb-PAPER-2013-017 [787] instead.**

[1008] LHCb collaboration, *Tagged time-dependent angular analysis of* $B^0_s \to J/\psi\phi$ *decays at LHCb*, LHCb-CONF-2012-002, 2012, **Retired. Please cite LHCb-PAPER-2013-002 [801] instead.**

[1009] LHCb collaboration, *Measurement of the effective* $B^0_s \to K^+K^-$ *lifetime*, LHCb-CONF-2012-001, 2012, **Retired. Please cite LHCb-PAPER-2012-013 [846] instead.**

[1010] LHCb collaboration, *Measurement of the relative cross-section $\sigma(\chi_{c2})/\sigma(\chi_{c1})$ of prompt χ_c mesons using at LHCb*, LHCb-CONF-2011-062, 2011, **Retired. Please cite LHCb-PAPER-2013-028 [776] instead.**

[1011] LHCb collaboration, *A search for time-integrated CP violation in $D^0 \to h^- h^+$ decays*, LHCb-CONF-2011-061, 2011, **Retired. Please cite LHCb-PAPER-2011-023 [879] instead.**

[1012] LHCb collaboration, *Measurement of the masses of the Ξ_b^- and Ω_b^-*, LHCb-CONF-2011-060, 2011, **Retired. Please cite LHCb-PAPER-2012-048 [27] instead.**

[1013] LHCb collaboration, *Relative branching ratio measurements of charmless $B^\pm$ decays to three hadrons*, LHCb-CONF-2011-059, 2011.

[1014] LHCb collaboration, *Measurements of the relative branching fractions of the $B^\pm \to p\bar{p}K^\pm$ decay channel including charmonium contributions*, LHCb-CONF-2011-058, 2011, **Retired. Please cite LHCb-PAPER-2012-047 [812] instead.**

[1015] LHCb collaboration, *Measurements of the relative and absolute branching fractions of the decays $B_s^0 \to D_s^\mp K^\pm$ and $B_s^0 \to D_s^- \pi^+$* , LHCb-CONF-2011-057, 2011, **Retired. Please cite LHCb-PAPER-2011-022 [880] instead.**

[1016] LHCb collaboration, *Combination of ϕ_s measurements from $B_s^0 \to J/\psi \phi$ and $B_s^0 \to J/\psi f_0(980)$*, LHCb-CONF-2011-056, 2011, **Retired. Please cite LHCb-PAPER-2011-031 [872] instead.**

[1017] LHCb collaboration, *Measurement of the ratio of branching fractions $\mathcal{B}(B_d \to K^{*0}\gamma)/\mathcal{B}(B_s \to \phi\gamma)$ with the LHCb experiment at $\sqrt{s} = 7\,TeV$*, LHCb-CONF-2011-055, 2011, **Retired. Please cite LHCb-PAPER-2011-042 [862] instead.**

[1018] LHCb collaboration, *Measurement of the Charm Mixing Parameter y_{CP} in Two-Body Charm Decays*, LHCb-CONF-2011-054, 2011, **Retired. Please cite LHCb-PAPER-2011-032 [871] instead.**

[1019] LHCb collaboration, *Observations of orbitally excited $B_{(s)}^{0\;**}$ mesons*, LHCb-CONF-2011-053, 2011, **Retired. Please cite LHCb-PAPER-2014-067 [670] instead.**

[1020] LHCb collaboration, *Study of triple product asymmetries in $B_s \to \phi\phi$ decays*, LHCb-CONF-2011-052, 2011, **Retired. Please cite LHCb-PAPER-2012-004 [855] instead.**

[1021] LHCb collaboration, *Measurement of ϕ_s in $B_s \to J/\psi f_0(980)$*, LHCb-CONF-2011-051, 2011, **Retired. Please cite LHCb-PAPER-2011-031 [872] instead.**

[1022] LHCb collaboration, *Measurement of Δm_s in the decay $B_s^0 \to D_s^-(K^+K^-\pi^-)\pi^+$ using opposite-side and same-side flavour tagging algorithms*, LHCb-CONF-2011-050, 2011, **Retired. Please cite LHCb-PAPER-2013-006 [797] instead.**

[1023] LHCb collaboration, *Tagged time-dependent angular analysis of $B_s \to J/\psi\phi$ decays with 337 pb^{-1} at LHCb*, LHCb-CONF-2011-049, 2011, **Retired. Please cite LHCb-PAPER-2011-021 [881] instead.**

[1024] LHCb collaboration, *Measurement of the $B_s^0 \to J/\psi K_s^0$ branching fraction*, LHCb-CONF-2011-048, 2011, **Retired. Please cite LHCb-PAPER-2011-041 [863] instead.**

[1025] CMS and LHCb collaborations, *Search for the rare decay $B_s^0 \to \mu^+\mu^-$ at the LHC with the CMS and LHCb experiments*, LHCb-CONF-2011-047,CMS-PAS-BPH-11-019, 2011, **Retired. Please cite LHCb-CONF-2012-017 [994] instead.**

[1026] LHCb collaboration, *Measurement of the CP Violation Parameter $\mathcal{A}_\Gamma$ in Two-Body Charm Decays*, LHCb-CONF-2011-046, 2011, **Retired. Please cite LHCb-PAPER-2011-032 [871] instead.**

[1027] LHCb collaboration, *Search for $X(4140)$ in $B^+ \to J/\psi \phi K^+$*, LHCb-CONF-2011-045, 2011, **Retired. Please cite LHCb-PAPER-2011-033 [870] instead.**

[1028] LHCb collaboration, *Evidence for the suppressed decay $B^\pm \to (K^\mp\pi^\pm)_D K^\pm$*, LHCb-CONF-2011-044, 2011, **Retired. Please cite LHCb-PAPER-2012-001 [858] instead.**

[1029] LHCb collaboration, *Inclusive $X(3872)$ production in pp collisions at $\sqrt{s} = 7$ TeV*, LHCb-CONF-2011-043, 2011, **Retired. Please cite LHCb-PAPER-2011-034 [869] instead.**

[1030] LHCb collaboration, *Charmless charged two-body B decays at LHCb with 2011 data*, LHCb-CONF-2011-042, 2011, **Retired. Please cite LHCb-PAPER-2011-029 [874] instead.**

[1031] LHCb collaboration, *Z cross-section measurement at $\sqrt{s} = 7$ TeV using the channel $Z \to \tau\tau$*, LHCb-CONF-2011-041, 2011, **Retired. Please cite LHCb-PAPER-2012-029 [830] instead.**

[1032] LHCb collaboration, *First observation of $B_c^+ \to J/\psi \pi^+\pi^-\pi^+$*, LHCb-CONF-2011-040, 2011, **Retired. Please cite LHCb-PAPER-2011-044 [860] instead.**

[1033] LHCb collaboration, *Updated measurements of W and Z production at $\sqrt{s} = 7$ TeV with the LHCb experiment*, LHCb-CONF-2011-039, 2011, **Retired. Please cite LHCb-PAPER-2012-008 [851] instead.**

[1034] LHCb collaboration, *Angular analysis of $B^0 \to K^{*0}\mu^+\mu^-$*, LHCb-CONF-2011-038, 2011, **Retired. Please cite LHCb-PAPER-2011-020 [882] instead.**

[1035] LHCb collaboration, *Search for the rare decays $B^0_{(s)} \to \mu^+\mu^-$ with 300 pb^{-1} at LHCb*, LHCb-CONF-2011-037, 2011, **Retired. Please cite LHCb-PAPER-2011-025 [877] instead.**

[1036] LHCb collaboration, *Studies of beauty baryons decaying to $D^0 p\pi^-$ and $D^0 pK^-$*, LHCb-CONF-2011-036, 2011, **Retired. Please cite LHCb-PAPER-2013-056 [749] instead.**

[1037] LHCb collaboration, *Analysis of $B_s^0 \to J/\psi\,(\pi^+\pi^-$ and $K^+K^-)$ and the first observation of $J/\psi f_2'(1525)$*, LHCb-CONF-2011-035, 2011, **Retired. Please cite LHCb-PAPER-2011-026 [876] instead.**

[1038] LHCb collaboration, *Average f_s/f_d b-hadron production fraction for 7 TeV pp collisions*, LHCb-CONF-2011-034, 2011, **Retired. Please cite LHCb-PAPER-2011-018 [884] instead.**

[1039] LHCb collaboration, *Measurement of the $B^{\pm}$ production cross-section at LHCb*, LHCb-CONF-2011-033, 2011, **Retired. Please cite LHCb-PAPER-2012-001 [858] instead.**

[1040] LHCb collaboration, *A measurement of the ratio of branching fractions: $\frac{\mathcal{B}(B^{\pm}\to DK^{\pm})}{\mathcal{B}(B^{\pm}\to D\pi^{\pm})}$ for $D\to K\pi$, KK, $K\pi\pi\pi$ and $K^0_S\pi\pi$*, LHCb-CONF-2011-031, 2011, **Retired. Please cite LHCb-PAPER-2012-001 [858] instead.**

[1041] LHCb collaboration, *Measurement of the Ratio of Branching Fractions $\mathcal{B}(\mathrm{B}^{\pm}\to \mathrm{J}/\psi\pi^{\pm})/\mathcal{B}(\mathrm{B}^{\pm}\to \mathrm{J}/\psi\mathrm{K}^{\pm})$ at $\sqrt{\mathrm{s}}=7$ TeV with the LHCb Detector*, LHCb-CONF-2011-030, 2011, **Retired. Please cite LHCb-PAPER-2011-024 [878] instead.**

[1042] LHCb collaboration, *Time integrated ratio of wrong-sign to right-sign $D^0\to K\pi$ decays in 2010 data at LHCb*, LHCb-CONF-2011-029, 2011, **Retired. Please cite LHCb-PAPER-2012-038 [821] instead.**

[1043] LHCb collaboration, *Measurement of b-hadron production fractions in 7 TeV centre-of-mass energy pp collisions*, LHCb-CONF-2011-028, 2011, **Retired. Please cite LHCb-PAPER-2011-018 [884] instead.**

[1044] LHCb collaboration, *Measurement of b-hadron masses with exclusive $J/\psi X$ decays in 2010 data*, LHCb-CONF-2011-027, 2011, **Retired. Please cite LHCb-PAPER-2011-035 [868] instead.**

[1045] LHCb collaboration, *Measurement of the $\psi(2S)$ production cross-section at $\sqrt{s}=7$ TeV in LHCb*, LHCb-CONF-2011-026, 2011, **Retired. Please cite LHCb-PAPER-2011-045 [859] instead.**

[1046] LHCb collaboration, *Evidence for the decay $B^0_s\to J/\psi\overline{K}^{*0}$*, LHCb-CONF-2011-025, 2011, **Retired. Please cite LHCb-PAPER-2012-014 [845] instead.**

[1047] LHCb collaboration, *First observations of the Cabibbo-suppressed decays $\overline{B}^0\to D^+K^-\pi^+\pi^-$ and $B^-\to D^0K^-\pi^+\pi^-$*, LHCb-CONF-2011-024, 2011, **Retired. Please cite LHCb-PAPER-2011-040 [864] instead.**

[1048] LHCb collaboration, *A search for time-integrated CP violation in $D^0\to h^+h^-$ decays and a measurement of the D^0 production asymmetry*, LHCb-CONF-2011-023, 2011, **Retired. Please cite LHCb-PAPER-2011-023 [879] instead.**

[1049] LHCb collaboration, *Central exclusive dimuon production at $\sqrt{s}=7$ TeV*, LHCb-CONF-2011-022, 2011, **The J/ψ and $\psi(2S)$ cross-sections are in LHCb-PAPER-2013-059 [746]. The χ_c part is not yet superseded.**

[1050] LHCb collaboration, *Measurement of the X(3872) mass with first LHCb data*, LHCb-CONF-2011-021, 2011, **Retired. Please cite LHCb-PAPER-2011-034 [869] instead.**

[1051] LHCb collaboration, *A measurement of the cross-section ratio $\sigma(\chi_{c2})/\sigma(\chi_{c1})$ for prompt χ_c production at $\sqrt{s}$ =7 TeV in LHCb*, LHCb-CONF-2011-020, 2011, **Retired. Please cite LHCb-PAPER-2011-019 [883] instead.**

[1052] LHCb collaboration, *First observation of the decay $B_s^0 \to K^{*0}\overline{K}^{*0}$*, LHCb-CONF-2011-019, 2011, **Retired. Please cite LHCb-PAPER-2011-012 [890] instead.**

[1053] LHCb collaboration, *Measurement of the effective $B_s^0 \to K^+K^-$ Lifetime*, LHCb-CONF-2011-018, 2011, **Retired. Please cite LHCb-PAPER-2011-014 [888] instead.**

[1054] LHCb collaboration, *Measurement of the B_c^+ to B^+ production cross-section ratios at $\sqrt{s}$ =7 TeV in LHCb*, LHCb-CONF-2011-017, 2011, **Retired. Please cite LHCb-PAPER-2012-028 [831] instead.**

[1055] LHCb collaboration, *Measurement of the $\Upsilon(1S)$ production cross-section at $\sqrt{s}$ =7 TeV in LHCb*, LHCb-CONF-2011-016, 2011, **Retired. Please cite LHCb-PAPER-2011-036 [867] instead.**

[1056] LHCb collaboration, *Inclusive jets and dijets in LHCb*, LHCb-CONF-2011-015, 2011.

[1057] LHCb collaboration, $\mathcal{B}(B_s^0 \to \psi(2S)\phi)/\mathcal{B}(B_s^0 \to J/\psi\phi)$, LHCb-CONF-2011-014, 2011, **Retired. Please cite LHCb-PAPER-2012-010 [849] instead.**

[1058] LHCb collaboration, *Measurement of the relative yields of the decay modes $B^0 \to D^-\pi^+$, $B^0 \to D^-K^+$, $B_s^0 \to D_s^-\pi^+$, and determination of f_s/f_d for 7 TeV pp collisions*, LHCb-CONF-2011-013, 2011, **Retired. Please cite LHCb-PAPER-2011-006 [896] instead.**

[1059] LHCb collaboration, *W and Z production at $\sqrt{s}$ =7 TeV with the LHCb experiment*, LHCb-CONF-2011-012, 2011, **Retired. Please cite LHCb-PAPER-2012-008 [851] instead.**

[1060] LHCb collaboration, *Measurement of direct CP violation in charmless charged two-body B decays at LHCb*, LHCb-CONF-2011-011, 2011, **Retired. Please cite LHCb-PAPER-2011-029 [874] instead.**

[1061] LHCb collaboration, *Measurement of Δm_d in $B^0 \to D^-(K^+\pi^-\pi^-)\pi^+$*, LHCb-CONF-2011-010, 2011, **Retired. Please cite LHCb-PAPER-2011-029 [874] instead.**

[1062] LHCb collaboration, *Observation of double J/ψ production in proton-proton collisions at a centre-of-mass energy of $\sqrt{s}$ =7 TeV*, LHCb-CONF-2011-009, 2011, **Retired. Please cite LHCb-PAPER-2011-013 [889] instead.**

[1063] LHCb collaboration, *First observation of the decay $BB_s^0 \to D^0K^{*0}$ and measurement of the ratio of branching fractions $\frac{\mathcal{B}\left(BB_s^0\to D^0K^{*0}\right)}{\mathcal{B}\left(\bar{B}_d^0\to D^0\rho^0\right)}$*, LHCb-CONF-2011-008, 2011, **Retired. Please cite LHCb-PAPER-2011-008 [894] instead.**

[1064] LHCb collaboration, *Improved measurements of the Cabibbo favored decays* $B^0_{(s)} \to D_{(s)}\pi\pi\pi$ *and* $\Lambda_b \to \Lambda_{c\pi\pi\pi}$ *branching fractions*, LHCb-CONF-2011-007, 2011.

[1065] LHCb collaboration, *Tagged time-dependent angular analysis of* $B^0_s \to J/\psi\phi$ *decays with the 2010 LHCb data*, LHCb-CONF-2011-006, 2011, **Retired. Please cite LHCb-PAPER-2011-021 [881] instead.**

[1066] LHCb collaboration, *Measurement of* Δm_s *in the decay* $B^0_s \to D^-_s(K^+K^-\pi^-)(3)\pi$, LHCb-CONF-2011-005, 2011.

[1067] LHCb collaboration, *Search for CP violation in* $B^0 \to J/\psi K^0_S$ *decays with first LHCb data*, LHCb-CONF-2011-004, 2011, **Retired. Please cite LHCb-PAPER-2012-035 [824] instead.**

[1068] LHCb collaboration, *Optimization and calibration of the LHCb flavour tagging performance using 2010 data*, LHCb-CONF-2011-003, 2011, **Retired. Please cite LHCb-PAPER-2011-027 [71] instead.**

[1069] LHCb collaboration, *Flavor-untagged angular analysis of* $B^0_d \to J/\psi K^*$ *and* $B^0_s \to J/\psi\phi$ *decays* , LHCb-CONF-2011-002, 2011, **Retired. Please cite LHCb-PAPER-2013-023 [781] instead.**

[1070] LHCb collaboration, *b-hadron lifetime measurements with exclusive* $b \to J/\psi X$ *decays reconstructed in the 2010 data*, LHCb-CONF-2011-001, 2011, **Retired. Please cite LHCb-PAPER-2013-065 [740] instead.**

[1071] LHCb collaboration, *Measurement of the inclusive* ϕ *cross-section in pp collisions at* $\sqrt{s}$ *=7 TeV with the LHCb experiment*, LHCb-CONF-2010-014, 2010, **Retired. Please cite LHCb-PAPER-2011-007 [895] instead.**

[1072] LHCb collaboration, *Prompt charm production in pp collisions at* $\sqrt{s}$ *=7 TeV*, LHCb-CONF-2010-013, 2010, **Retired. Please cite LHCb-PAPER-2012-041 [818] instead.**

[1073] LHCb collaboration, *Measurements of* B^0 *mesons production cross-section in pp collisions at* $\sqrt{s}$ *=7 TeV using* $B^0 \to D^{*-}\mu^+\nu_\mu X$ *decays*, LHCb-CONF-2010-012, 2010.

[1074] LHCb collaboration, *Measurement of prompt* $\bar{\Lambda}/\Lambda$ *and* $\bar{\Lambda}/K^0_S$ *production ratios in inelastic non-diffractive pp collisions at* $\sqrt{s}$ *= 0.9 and 7 TeV*, LHCb-CONF-2010-011, 2010, **Retired. Please cite LHCb-PAPER-2011-005 [897] instead.**

[1075] LHCb collaboration, *Measurement of the* J/ψ *production cross-section at* $\sqrt{s}$ *=7 TeV in LHCb*, LHCb-CONF-2010-010, 2010, **Retired. Please cite LHCb-PAPER-2011-003 [899] instead.**

[1076] LHCb collaboration, *Measurement of the* $\overline{p}/p$ *ratio in LHCb at* $\sqrt{s}$ *=900 GeV and 7 TeV*, LHCb-CONF-2010-009, 2010, **Retired. Please cite LHCb-PAPER-2011-037 [866] instead.**

[1077] LHCb collaboration, *Prompt K_S^0 production in pp collisions at $\sqrt{s}$ = 900 GeV*, LHCb-CONF-2010-008, 2010, **Retired. Please cite LHCb-PAPER-2010-001 [903] instead.**

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