

LHCb Publication Procedure

This document describes the steps that should be followed for the publication of analyses using data from the LHCb experiment.

Members of the collaboration may independently publish papers only if they refer to previously published data, and involve no use of software that has involved significant investment from the rest of the collaboration (such as the full Monte Carlo simulation, or reconstruction code). Exceptions may be made to this rule for technical publications by authors from a subsystem of the experiment, on agreement of the Spokesperson.

The usual sequence for publication of an analysis is as follows: first, circulation of an internal LHCb note; then submission of the preliminary result to a conference with an associated conference paper; finally, publication in a physics journal. The procedure described below reflects this sequence, but may be straightforwardly adapted to the case of a journal publication without preceding conference paper. In a conference paper, all figures and results should be marked as preliminary. Any new results shown in the presentation at a conference should be taken from the conference paper. Only one set of preliminary results should normally be produced per analysis, before the final publication is submitted.

The procedure for approval of conference papers and journal publications are similar, apart from the timescale: conference papers will in general be shorter in length, and therefore the time for the commenting phase may be reduced. On decision of the Physics Coordinator the final oral presentation of the paper may also be replaced by the circulation to the author list of the final document along with a report of any changes since the initial presentation.

Exceptions to the standard procedure can be decided by the Spokesperson. In particular, early plots demonstrating the performance of the experiment, such as mass peaks, may be approved for public release by the Spokesperson after they have been presented for approval at a general LHCb meeting.¹

¹ This could be at one of the regular “Tuesday meetings”, for example.

1. An analysis that the proponents² wish to make public, either as a conference paper or physics publication, must first be presented at physics working group meetings. A detailed internal LHCb note should be produced, describing all relevant aspects of the analysis. The description of technical details should be more explicit than in the eventual publication.
2. The decision that an analysis should proceed towards publication is taken by the Physics Coordinator, in consultation with the Spokesperson and the convener of the relevant physics working group. At this point an analysis page³ should be set up by the proponents, providing supporting documentation. Internal referees are assigned to the analysis by the Physics Coordinator, in consultation with the Spokesperson and Editorial Board (EB) chairperson. The role of the referees is to ensure the high quality of all aspects of the analysis and publication. There will normally be two or three referees: they should not be directly involved in the analysis being reviewed.
3. The referees study the supporting documentation from the analysis page, interact with the proponents, and advise the Physics Coordinator of the status of the analysis. When the Physics Coordinator is satisfied that it is in a suitably mature state, the analysis is presented at a general LHCb meeting, and taking into account the discussion at that meeting the Physics Coordinator decides on approval of the analysis to proceed to a draft conference paper.
4. Once the draft has been prepared by the proponents, the author list is defined for that draft, following the prescription set down by the LHCb Membership Committee. The author list will normally remain unchanged for any subsequent drafts of the same paper. Members of the collaboration may withdraw their names from the author list, but before doing so are expected to contact the EB chairperson with an explanation of their concerns.
5. The draft is circulated to the members of the author list, with a deadline for comments that should normally be at least two weeks later. Along with other members of the collaboration, the referees should provide comments to the draft.⁴ In addition, a number of institutes from the collaboration may be assigned the task of reading and commenting on a given draft, by the EB chairperson in consultation with the Spokesperson. The proponents should either implement the changes requested, or explain their reason for not doing so, to the satisfaction of the referees. In case of disagreement between proponents and referees the case will be considered by the Editorial Board, which will take the final decision, in consultation with the Physics Coordinator and Spokesperson. If necessary, particularly in case of any major change, further drafts can be circulated.

² The term “proponents” is used for the actual authors of the document, to avoid confusion with the full author list.

³ The analysis page is implemented as a web page, accessible as a link from the CDS system that is used for circulating drafts. The names of the proponents of the analysis, and the internal referees, should be listed there. It should also include links to all presentations made concerning the analysis, and to any other supporting documentation, including the associated LHCb note. The analysis page should be updated to reflect any changes in the analysis as it proceeds to publication.

⁴ Comments to a draft, and the proponents’ responses, should be entered into the CDS system for the draft, accessible to all authors.

6. A final draft is produced and is submitted to the Editorial Board, which checks for clarity of presentation and the correct use of English, and that the style adopted for LHCb publications has been adhered to. One of the internal referees is assigned the task of following up the implementation of any changes with the proponents.
7. After implementation of changes from the Editorial Board, the document ready for submission is presented by the proponents at a general LHCb meeting, outlining the review process and any significant changes that have occurred. The decision on approval of the document for submission is taken by the Spokesperson, reflecting the conclusion of discussion at that meeting.
8. The decision to convert a conference paper into a journal publication is taken by the Physics Coordinator. The publication may incorporate results from more than one conference paper. A new draft is produced for the journal publication, and in case of major changes compared to the conference paper the review procedure is followed again, as specified in points 4–7 above. If the changes are only minor, the review process can be simplified on agreement of the Spokesperson.
9. The choice of journal for a physics publication is made by the EB chairperson in consultation with the Physics Coordinator and Spokesperson, according to the length of the document, and implementing any guidelines decided by the CB concerning Open Access, for example. After approval, one of the proponents acts as contact author and submits the paper to the EP preprint service at CERN, the arXiv preprint server, and the journal. The EB chairperson must be informed of any modifications requested by the journal referees.

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(for the Editorial Board)