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## The Geometrical Displacements Calculator Tool

- **This tool implements the following methods:**
  - **Impact Parameter**
  - **Distance of Closest Approach**
  - **Distance between two Vertices**
- \* **The Impact Parameter method uses the Transporter tool to take the Particle pointOnTrack to the Z position of the vertex.**



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## The Impact Parameter Method

- This method has four signatures:

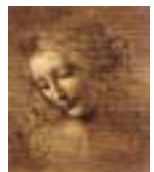
- *geomDispCalculator()* → *calcImpactPar(Particle, Vertex, ip, ipErr);*

- Impact parameter significance = ip/ipErr**

- *geomDispCalculator()* → *calcImpactPar(Particle, Vertex, ip, ipErr, ipVector, errMatrix);*

- *geomDispCalculator()* → *calcImpactPar(Particle, xyzPoint, ip, ipErr);*

- *geomDispCalculator()* → *calcImpactPar(Particle, xyzPoint, ip, ipErr, ipVector, errMatrix);*



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## Distances Calculation

- **Distance of Closest Approach**

- *geomDispCalculator()* → *calcCloseAppr(Particle, Particle, dist, distErr)*

- **Distance between two Vertices**

- *geomDispCalculator()* → *calcVertexDis(Vertex, Vertex, dist, distErr)*

