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Parameterization of the LHCb magnetic field map

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The LHCb warm magnet has been designed to provide an integrated field of 4 Tm for tracks coming from the primary vertex. To insure good momentum resolution of a few per mil, an accurate description of the magnetic field map is needed. This is achieved by combining the information from a TOSCA-based simulation and data from measurements. The paper presents the fit method applied to both the simulation and data to achieve the requirements. It also explains how the corresponding software tool is integrated in the LHCb Gaudi software and shows the relation with the environment in which it is used.

Submitted on behalf of Collaboration (ex, BaBar, ATLAS)

LHCb

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