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Faraway tracking at LHCb

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One of the main challenges at LHCb is coming from the reconstruction of tracklets in the Scintillator Fiber detector (SciFi) in real-time, due to the large hit combinatorics in this detector. The new "Faraway"algorithm which has an innovative strategy for the reconstruction and vertexing of two SciFi-tracks is presented here, with the present performance and future prospects. The development of this algorithm could largely increase the potential of LHCb to detect long-lived particles with lifetimes of hundreds of nanoseconds.

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