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BESIII low transverse momentum track finding based on Hough transform

In order to overcome the difficulty brought by the curling charged tracks in the BESIII drift chamber, we introduce the Hough transform based tracking method, which is used as a supplementary to find low transverse momentum tracks. This tracking algorithm is realized in the BESIII offline software system and its performance has been checked by both Monte Carlo and data. The results show that this tracking method could enhance the reconstruction efficiency at the low transverse momentum region.

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