
Subject: Re: About Reconstruction

Posted by [Jifeng Hu](#) on Wed, 17 Jul 2013 08:58:43 GMT

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I read the pid packages in last week.

Considering a fully

time-based reconstruction for EMC, the time-stamp will be used.

To identify a shower belongs to which event, we need compare the shower's time (T_{shower}) to the event time (T_{evt}), suppose the event time is determined by the fastest TOF detector for events containing charged track, or determined by EMC for neutral decays.

Usually, $T_{\text{shower}} = T_{\text{evt}} + T_{\text{flying}} + T_{\text{signal}}$, this means from the event time T_{evt} , one track spent T_{flying} time and hit EMC, then spent T_{signal} time and produced a shower.

And now I hope to get a calibrated event time by calibrating T_{shower} , so the flying path is needed. this work has been done for photons. The flying path is easily taken as a straight line by connecting the hitting position with the collision vertex.

However, a little hard for charged tracks, because

<1> After associating charged tracks with showers, how to access the flying path between origin and EMC hitting position? Since the helix parameters only offer the path inside tracking detector without any extrapolation?

<2> with different charged particles hypothesis, calibration results should be different.

what are your opinions? many thanks.
