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Refit all Tracks of an Event with Run Vertex Constraint

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SUBROUTINE FITEVR(NTRVTX,MODE)

This subroutine selects all tracks with more than 16 hits, which originate from the run vertex within a distance of 25mm. For these selected tracks a parabola fit with vertex constraint is performed in the x-y-plane. (A modification of SUBROUTINE REFITV is used; see JADE Computer Note 60.) If the mean deviation of the hits from the fitted curve is $< 0.35\text{mm}$ or less than the one of the previous fit, the new result is stored in the PATR-bank. In addition (MODE = 2,3) all those tracks, which are assumed to originate from the vertex are then simultaneously fitted in the r-z-plane to different slopes and a common vertex in z.

Arguments:

Input : MODE = 0 : overwrite old PATR-bank with new results
MODE = 1 : create new PATR-bank with new results
MODE + 2 : do also common z-fit

Output: NTRVTX = number of tracks from the run vertex

The measured hits are subject to all corrections described in JADE Computer Note 45.

The track data with new fit results in the PATR-bank can be identified by the program identifier (2-nd word of track data). Bit 32 is set if the

r-phi coordinates of the track are refitted. Bit 64 is set if the track coordinates also participated in the common r-z-fit.

If a z-r-fit with a common vertex is requested, it is recommended to use the recalibration of z-coordinates by P. Dittmann (CALL ZSFIT with MODE=1) before this program.

