Subject: Correlation with charged tracks
Posted by StefanoSpataro on Wed, 17 Dec 2014 20:43:16 GMT
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Dear all,
after several discussions at the last collaboration meeting, I checked the correlation of charged tracks with EMC.
I simulated the standard psi(3680)-> J/psi pi+ pi-, and checked the distribution of sqrt(EMC quality) -> the distance between the coordinates of the EMC bumps and the coordinated of the extrapolated point from the track to EMC (in cm):

As you can see the residual has a width of around 1cm, comparable to the size of the emc crystals. There is some systematic inside since the coordinates of the EMC cluster are inside the crystal and not at the front face, but I would say inside error bars.
I checked running 2 iterations of the Kalman Filter (in red), but the distributions are pretty the same.

I cannot see from this plot any problem of quality of extrapolated tracks. Everything seems fine.

File Attachments

1) emc_quality.gif, downloaded 1257 times