PANDA tracking performance

test of tracking code as a preparation of forward tracking campaign

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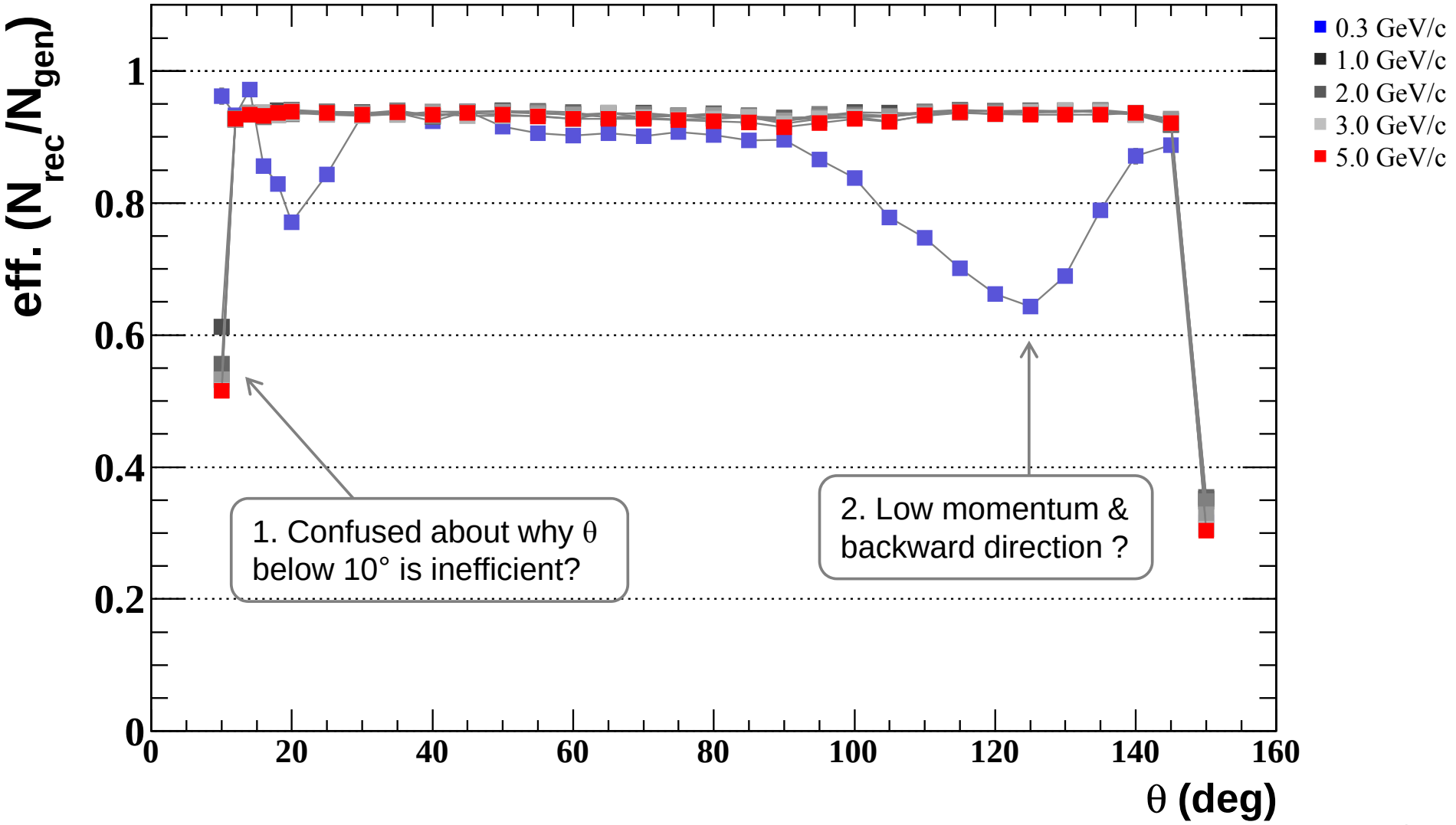
Reconstruction efficiency

Reconstruction efficiency of μ^-, which is a pointlike particle

$$\varepsilon = \frac{N_{rec,MC}}{N_{gen,MC}}$$ where, $N_{rec,MC}$ is a number of reconstruced of MC truth matched



Tracking performance

Study of reconstruction for combined two spectrometer

- used PANDAroot version july12 → changed trunk version of october

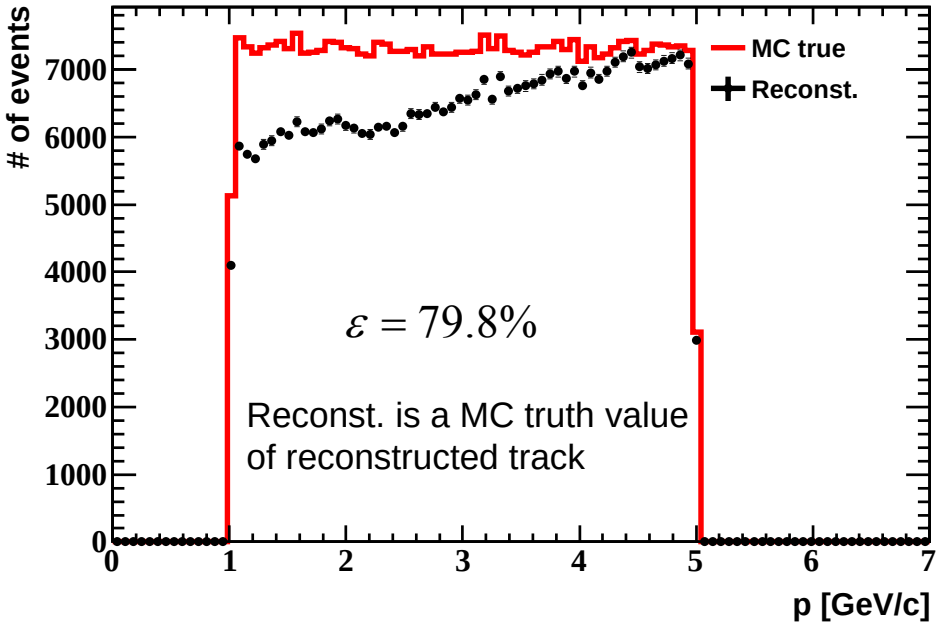
- probably 2nd problem is connected with DIRC geometry & no SciTil hits wait until the problem is solved.

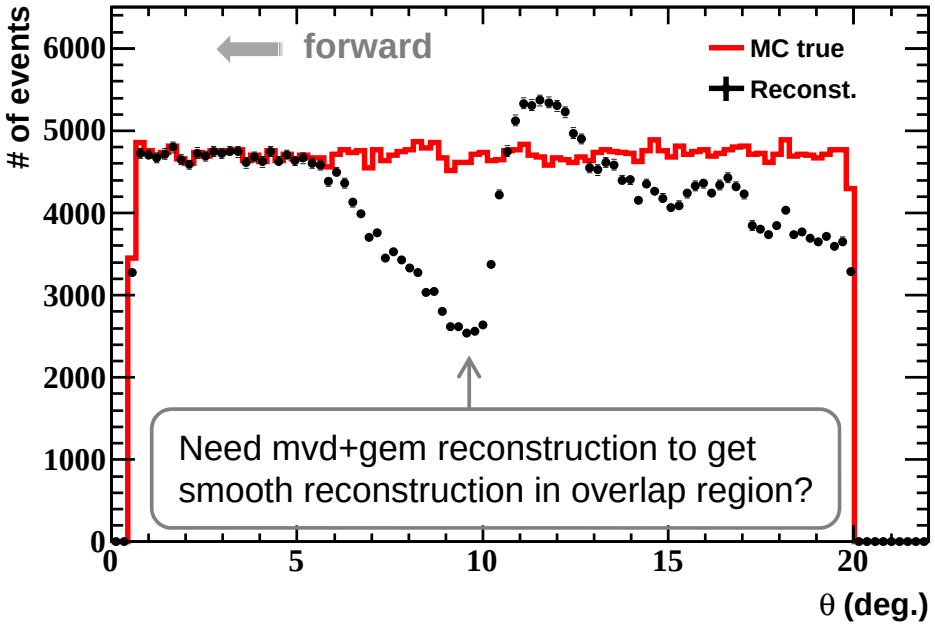
- simple test of efficiency for 0.3 GeV/c track, to see ϕ dependence

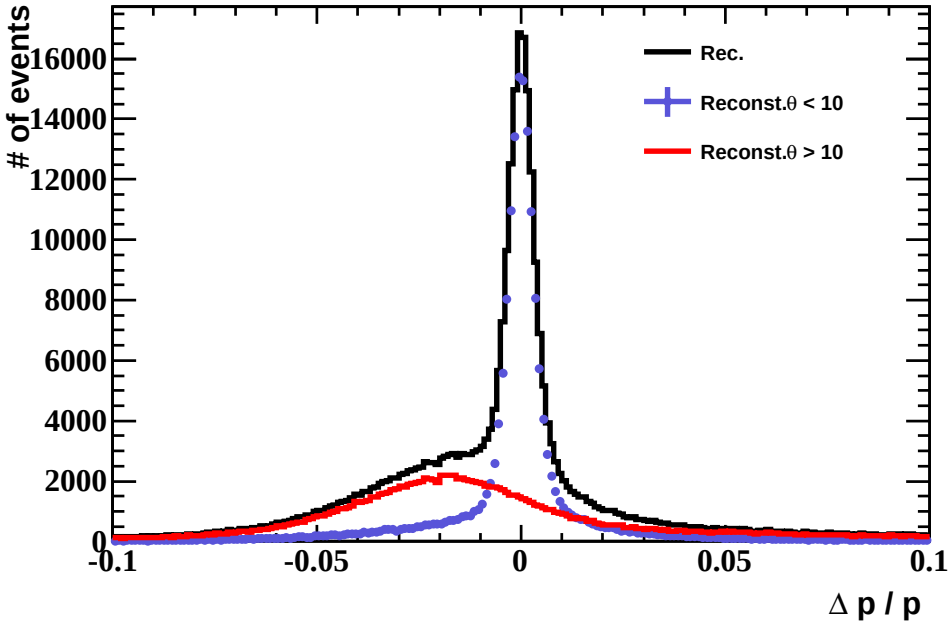
	$\varepsilon(35^\circ < \theta < 90^\circ)$	$\varepsilon(90^\circ < \theta < 145^\circ)$	$\Delta\,\varepsilon(\theta_{forward}\text{-}\theta_{backward})$
1st $(0 < \phi < 90^\circ)$	68.7	61.9	6
2nd $(90^\circ < \phi < 180^\circ)$	73.7	68.8	6
3rd $(180^\circ < \phi < 270^\circ)$	65.4	59.3	6
4th $(270^\circ < \phi < 360^\circ)$	78.0	72.1	6
Σ	71.5	65.5	6

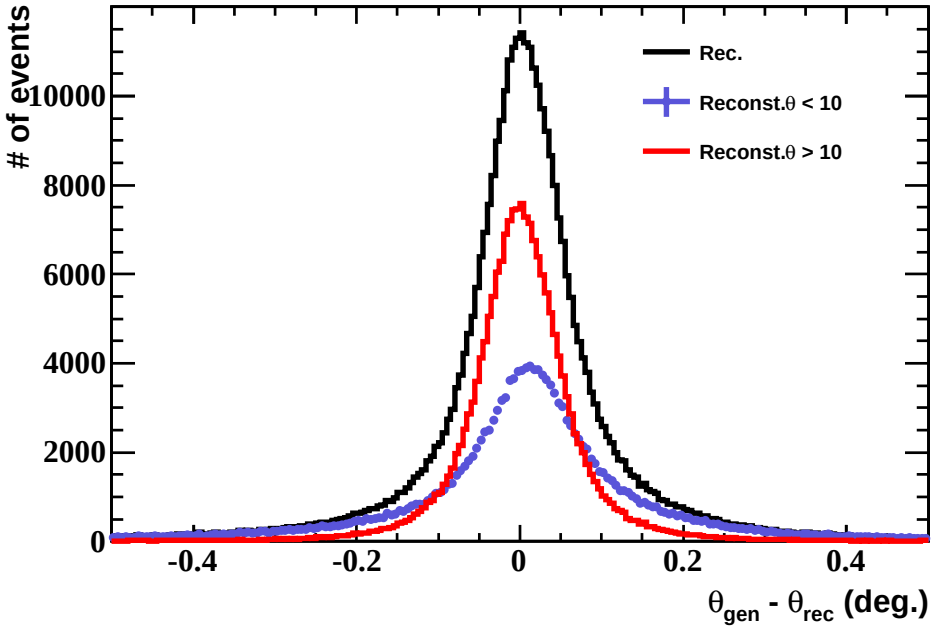
Tracking performance of μ^-

- Test of track reconstruction in forward direction with the range $0.5° < \theta < 20°$ & $1 < p < 5$ (GeV/c)









Tracking performance of μ^+

- Test of track reconstruction in forward direction with the range $0.5° < \theta < 20°$ & $1 < p < 5$ (GeV/c)