

dE/dx studies for vertex detector

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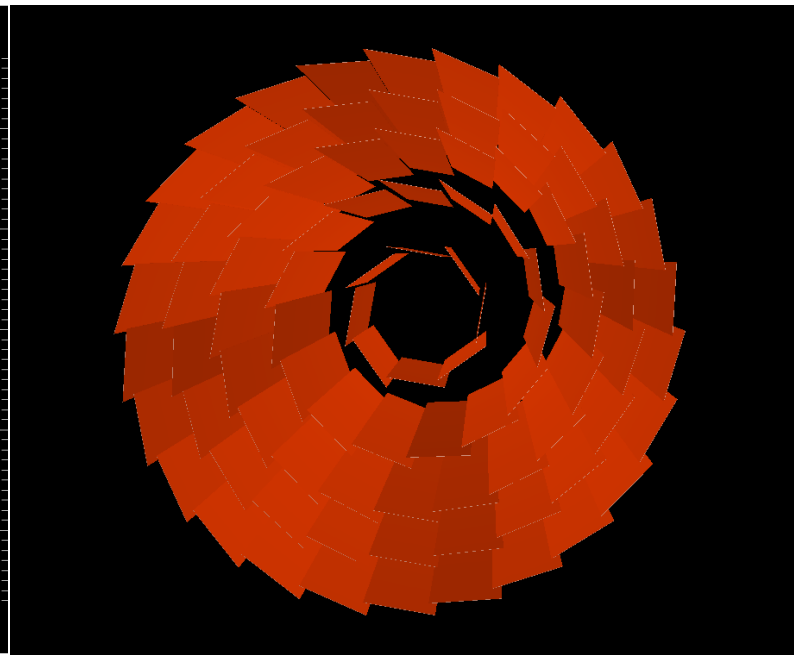
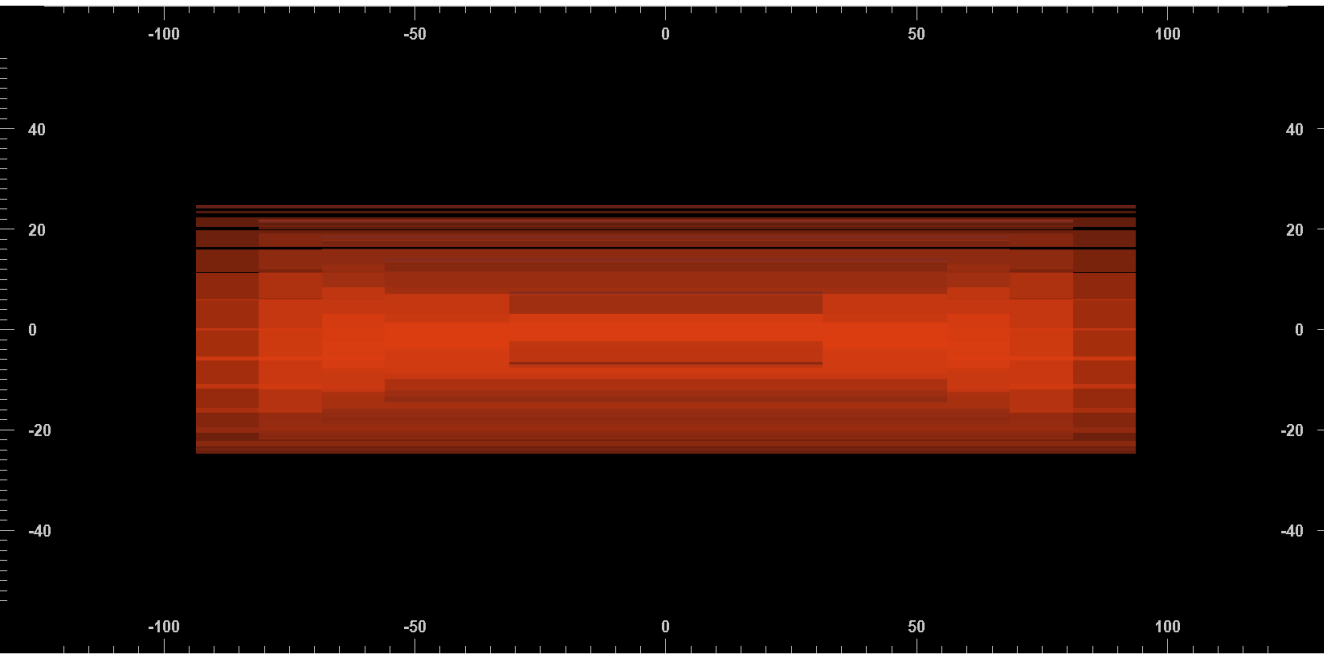
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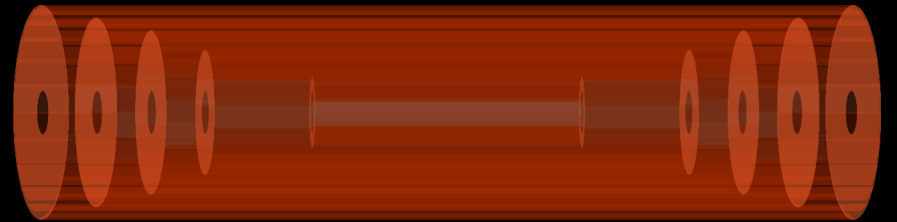
Motivation for study

- Very soft tracks may reach neither TOF, nor Straw Tracker. \Rightarrow For their identification one can use only the vertex detector.

Vertex detector



- Default geometry
- 5 layers
- 300 μm thick



Event generation

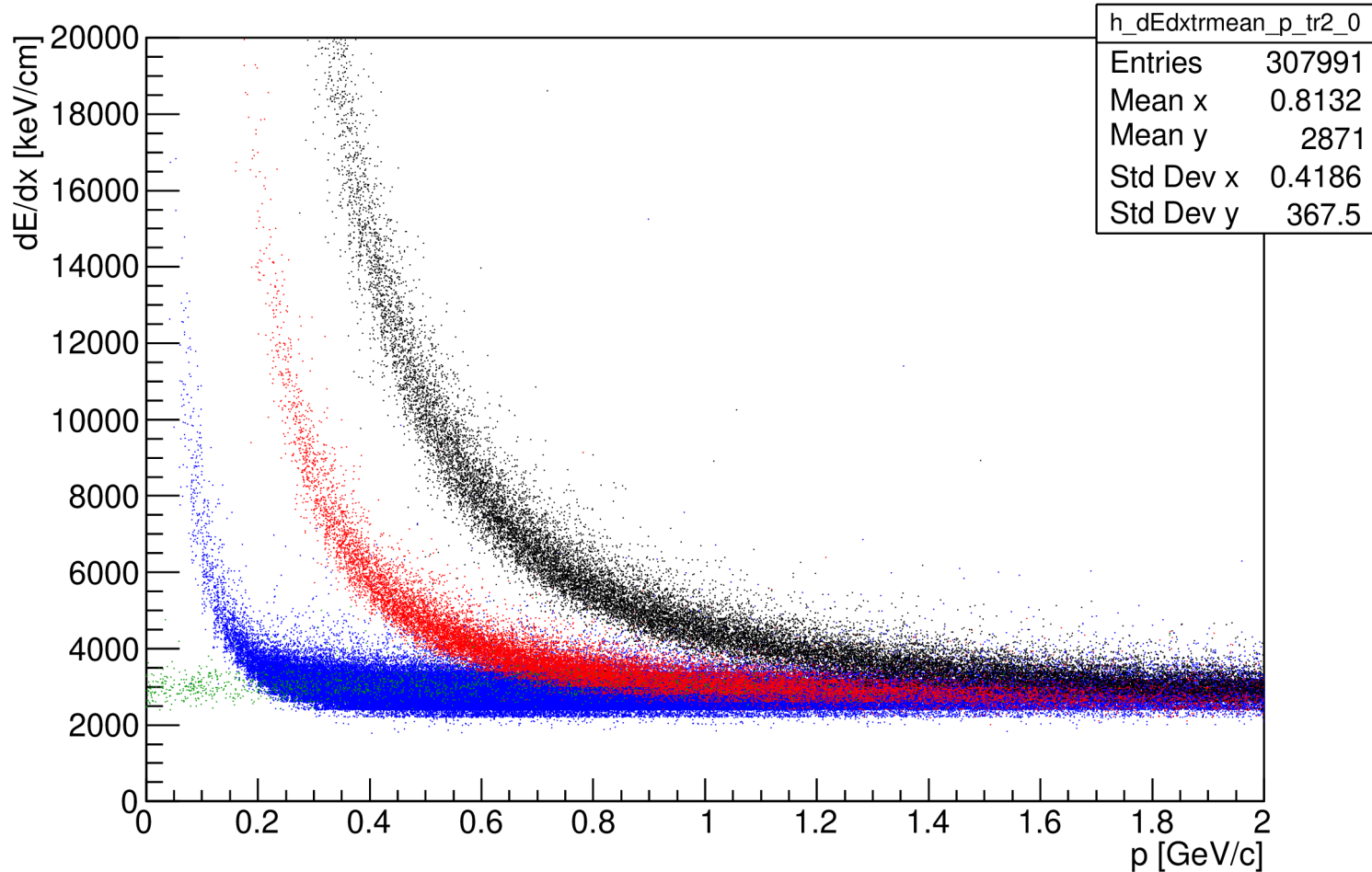
- Minimum bias
- 80 000 events

Track selection

- `IsGood()`
- `IsAcceptable()`
- > 2 hits in VD

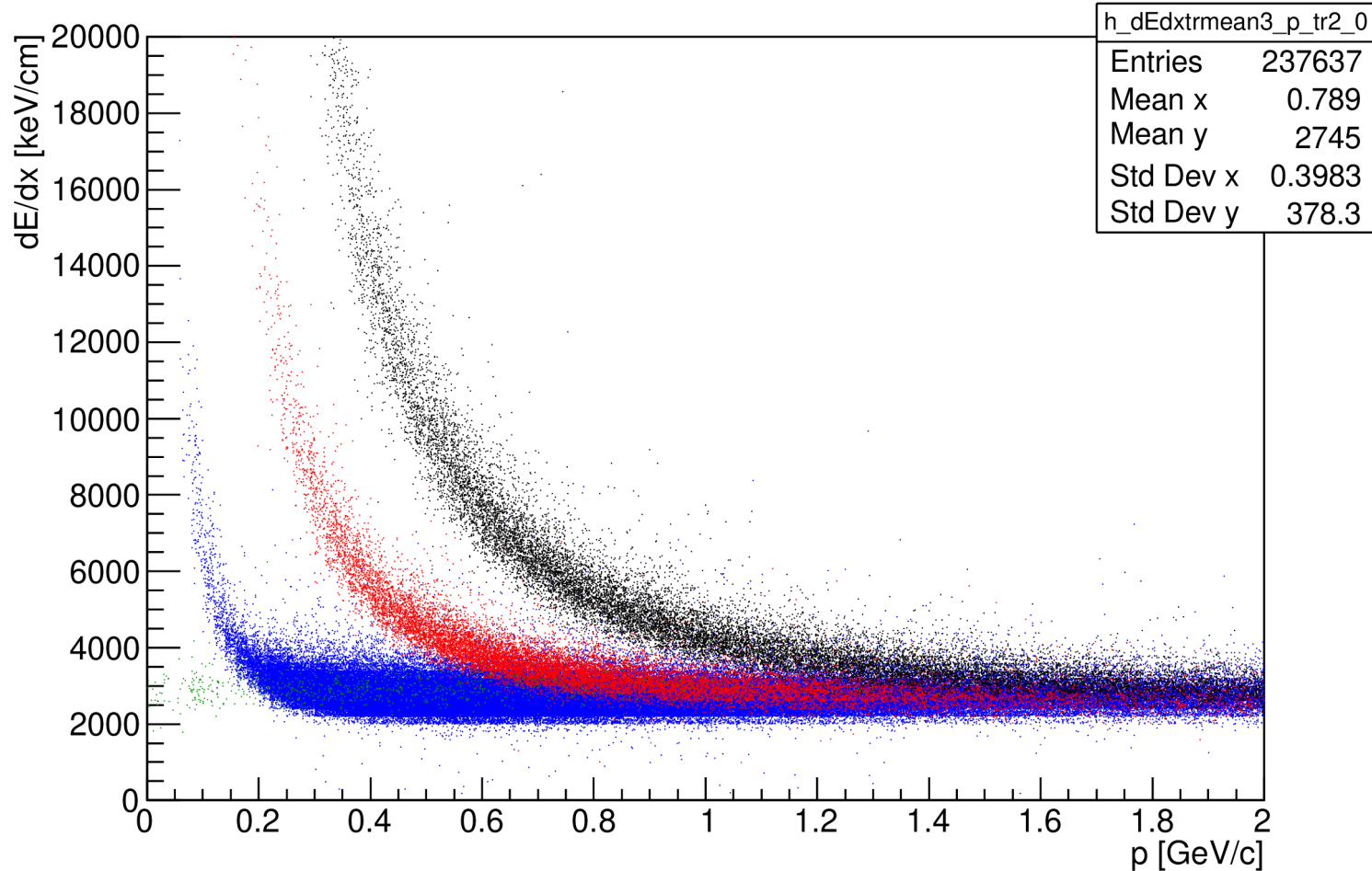
Truncated mean dE/dx distribution for VD: 5 layers

Trunc. mean (40%) dE/dx vs p



Truncated mean dE/dx distribution for VD: 3 layers

Trunc. mean (67%) dE/dx vs p [ONLY LAYERS 1,3,5]



Conclusions

- Vertex detector can be used for identification of soft ($\lesssim 400$ MeV) particles.

backup slides

Trunc. mean dE/dx distribution for VD: 3 layers

Trunc. mean (33%) dE/dx vs p [ONLY LAYERS 1,3,5]

