SIlicon VErtex TrAcker

SIVETA 1.0

http://www.phenix.bnl.gov/phenix/WWW/p/draft/rak/www/siveta.html

Internal fast generators (Pythia) ⇓ makeHits

PISA ⇓ makeHits

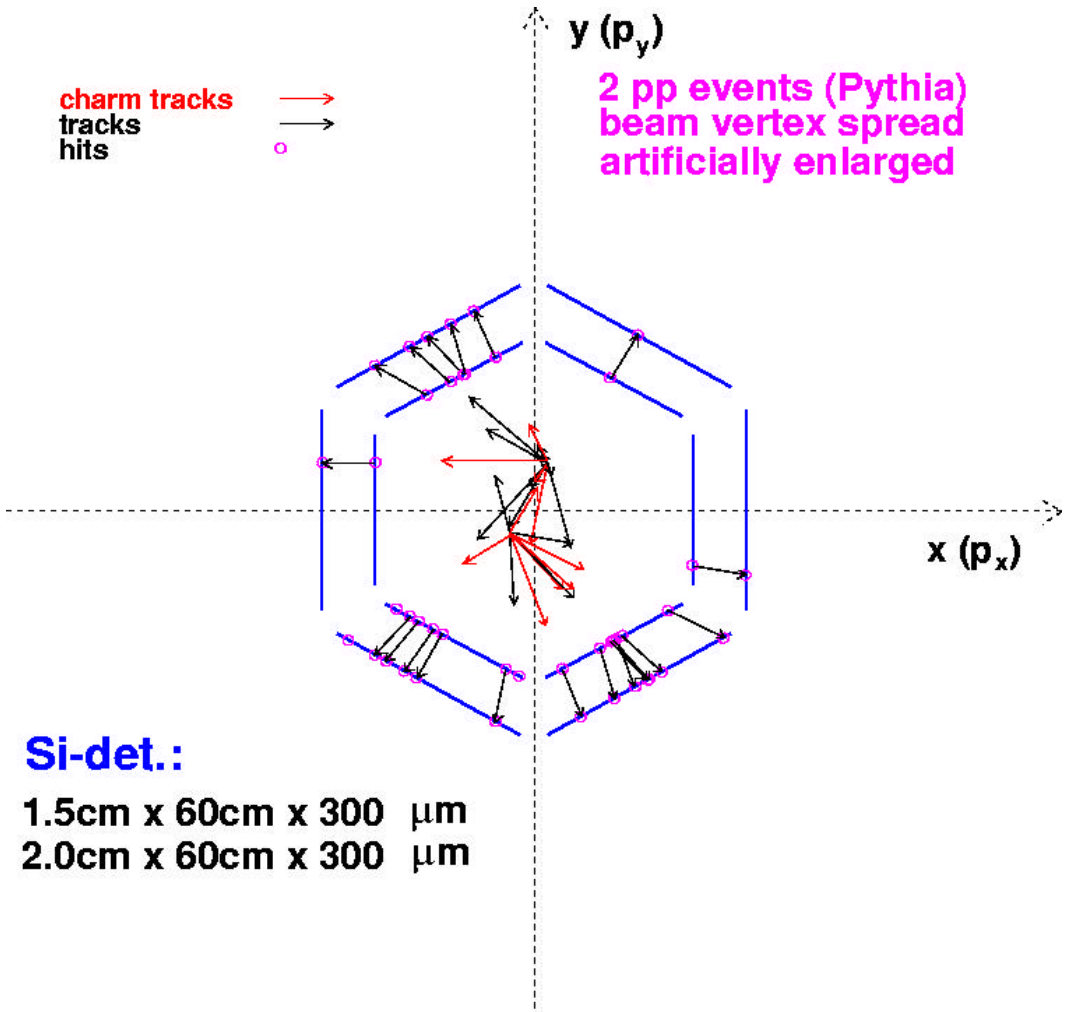
⇓

makeTracks

makeVertex

findDispVertex

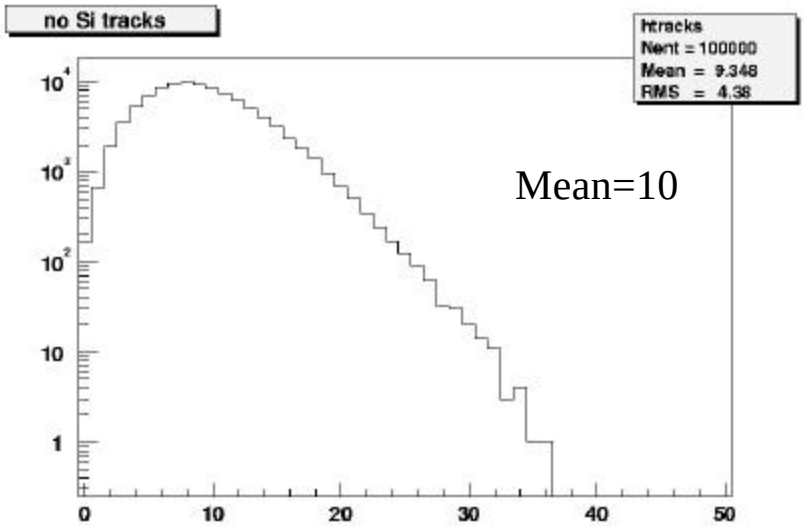
SIVETA Event Display

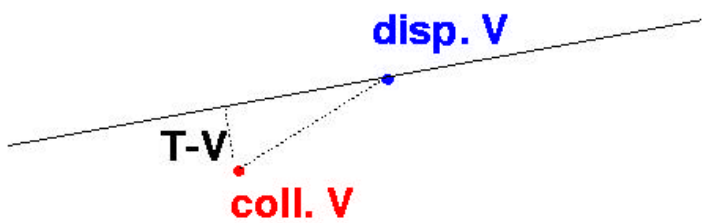


- Simple algorithm for hit associations
- Finds the shortest vector connecting the track and collision vertex

Tracking and Displaced Vertex

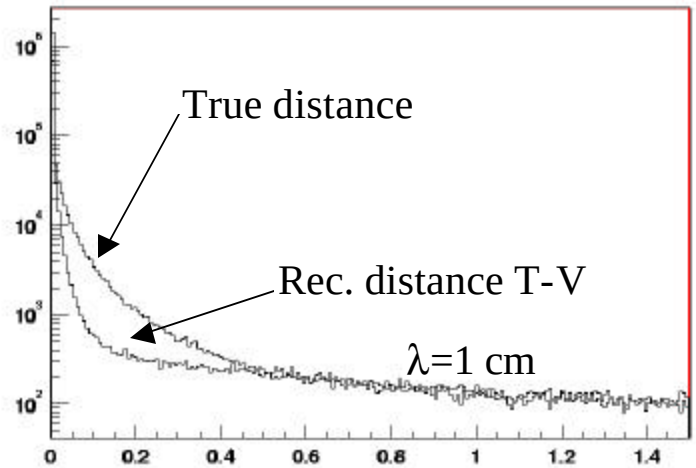
Pythia pp $\sqrt{s}$ = 200GeV/c

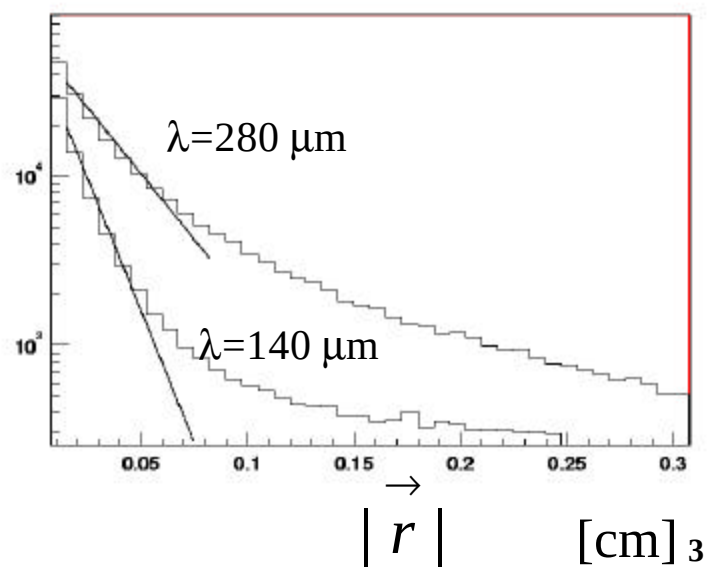




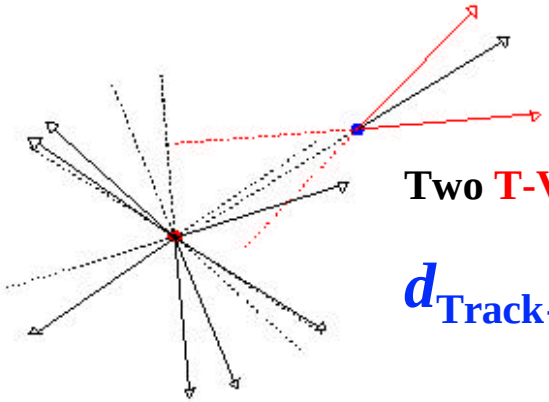
$d_{\text{Track-Vertex}}$ is always smaller than $d_{\text{CollVert-DisplVertex}}$

Closest distance to coll. vertex





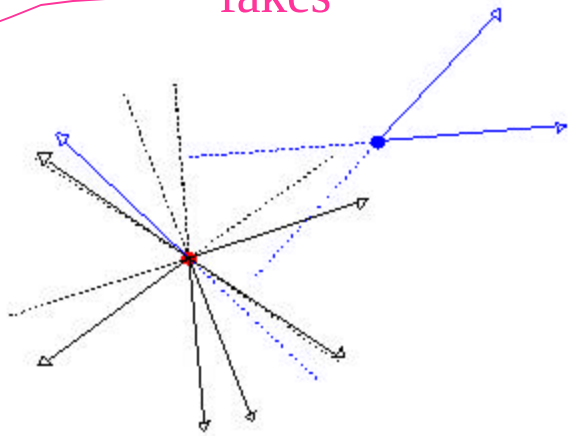
Displaced vertex finder



Two T-V candidates

$d_{\text{Track-Vertex}} > \text{cut}$

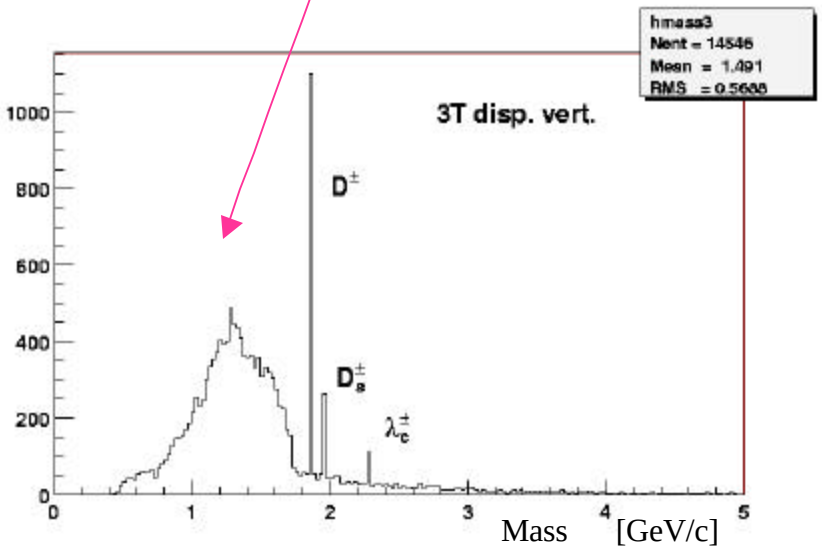
fakes



Comparing T-V candidates with all other tracks closed track pairs

$d_{\text{Track-Track}} < \text{cut}$ are selected

If 3 pairs are referring to 3 tracks only, than they are assigned to displaced vertex.

All blue tracks could satisfy

$d_{\text{Track-Track}} < \text{cut}$