SPD S&C meeting,
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Example for short-lived particles reconstruction in SPD experiment

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Vertex detector (option)

1. different configuration of silicon vertex detector in SPDroot simulation

2. DSSD (c.t. = 300 mkm, 5 layers) => option = v0;

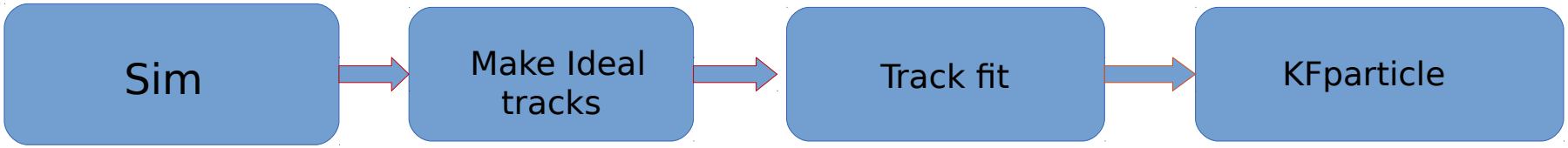
3. DSSD (c.t. = 50 mkm, 5 layers) => option = v1;

4. MAPS (c.t. = 50 mkm, 5 layers) => option = v2;

5. MAPS (c.t. = 50 mkm, 1,2,3 layers) + DSSD (c.t. = 300 mkm, 4,5 – layers) => option=v3;

6. Errors
   MAPS: u = v = 4 mkm (effective)
   DSSD: u(z) = 23 mkm, v(x) = 11 mkm (effective)

General schema



1. add new class on base of KFparticle (in rec directory)

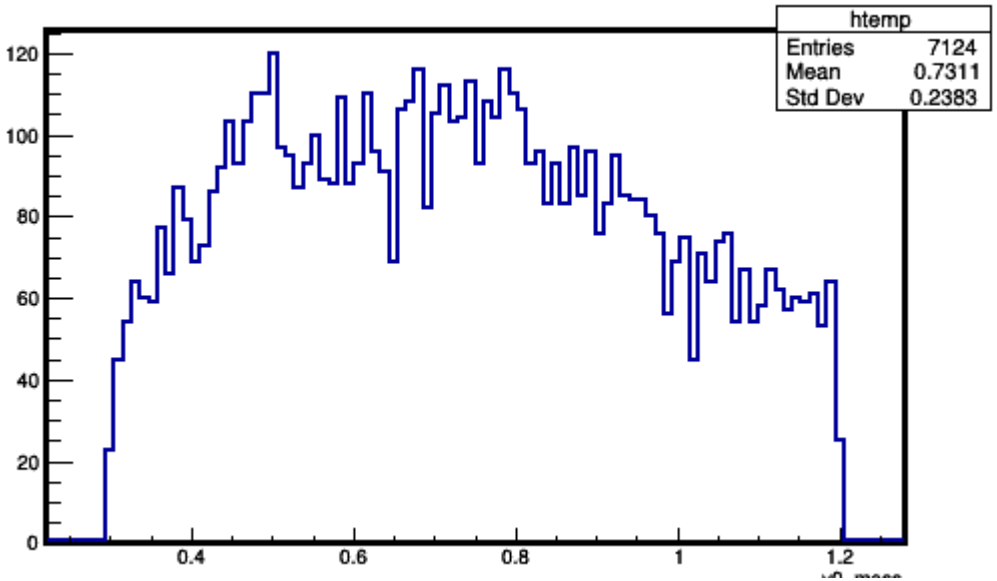
2. run new macro:

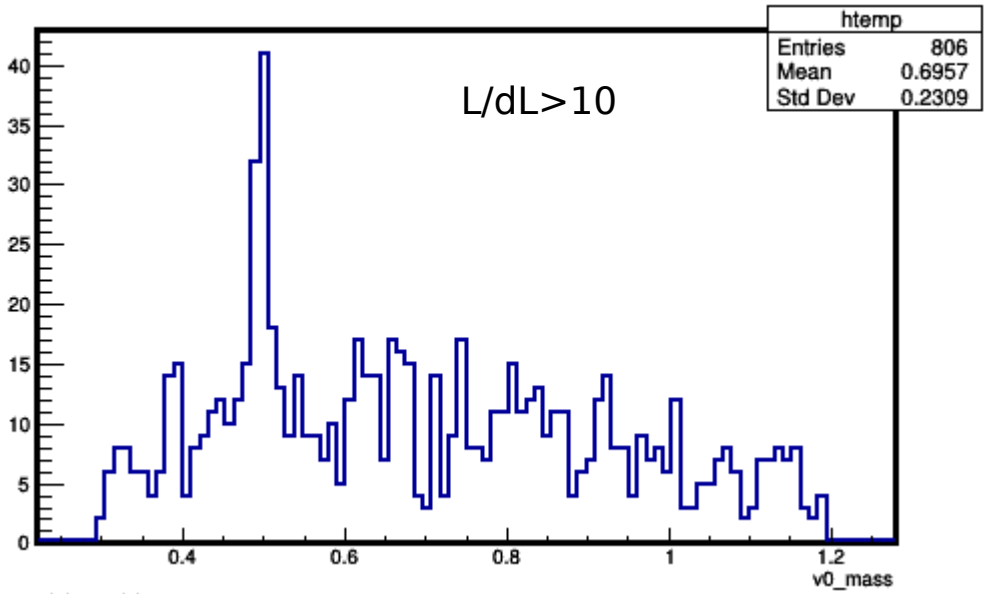
```
void TestKFfinder() {

TSting inFile  = “FittedTracksFullMB.root”;
TSring parFile = “params_torFullMB.root”;
TSring outFile  = “test”;

Int_t firstDaughter     = 211;
Int_t secondDaughter = -211;

SpdKFpatV0Finder kftest;
kftest.SetInputFiles(inFile, parFile);
Kftest.SetOutputFile(outFile);

kftest.SetDaughters(firstDaughter, secondDaughter);

kftest.RunTest();
}
```

Some results (K0)

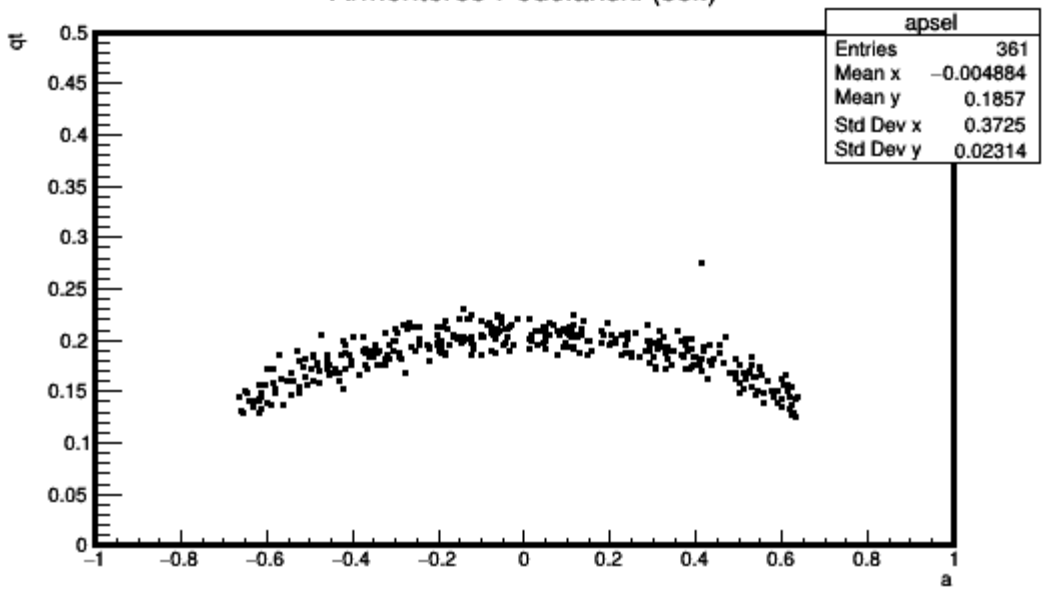
1. Simulate Minimum Bias

2. Run TesKFfinder with first particle=211 and second particle = -211





Armenteros-Podolanski (sel.)



Some results (L0)

1. Simulate Minimum Bias

2. Run TesKFfinder with first particle=2211 and second particle = -211