M(Kpi): a more explanatory diagram checkmarks mean Qpair=0

pi3+k4- is junk

pi1+pi2- is junk

pi1+k4- is the primary vertex

pi2-pi3+ is the secondary vertex

where is the K?

pi1pi2 pi3k4

pi1pi2 k3pi4

pi1k2 pi3pi4

k1pi2 pi3pi4

1 = higher pt

How to tell the computer to make the right choice? which is pi1+k4-?

charge is not enough

PID is not enough

trying nesting the loops does not work.

solution: track information must be tagged to the vertex.

there are several parameters related to the vertex reconstruction.

CMS Twiki Vertex Reconstruction states that there are a few vertex tools.

I am trying to find a way to connect the tracks to the vertex, that is, relate the primary vertex to its tracks.

There are many parameters related to the vertices and tracks but with lack of information. I am going deep into it.

By the way, I can not find TOTEM 2018 data in the EOS repository.

