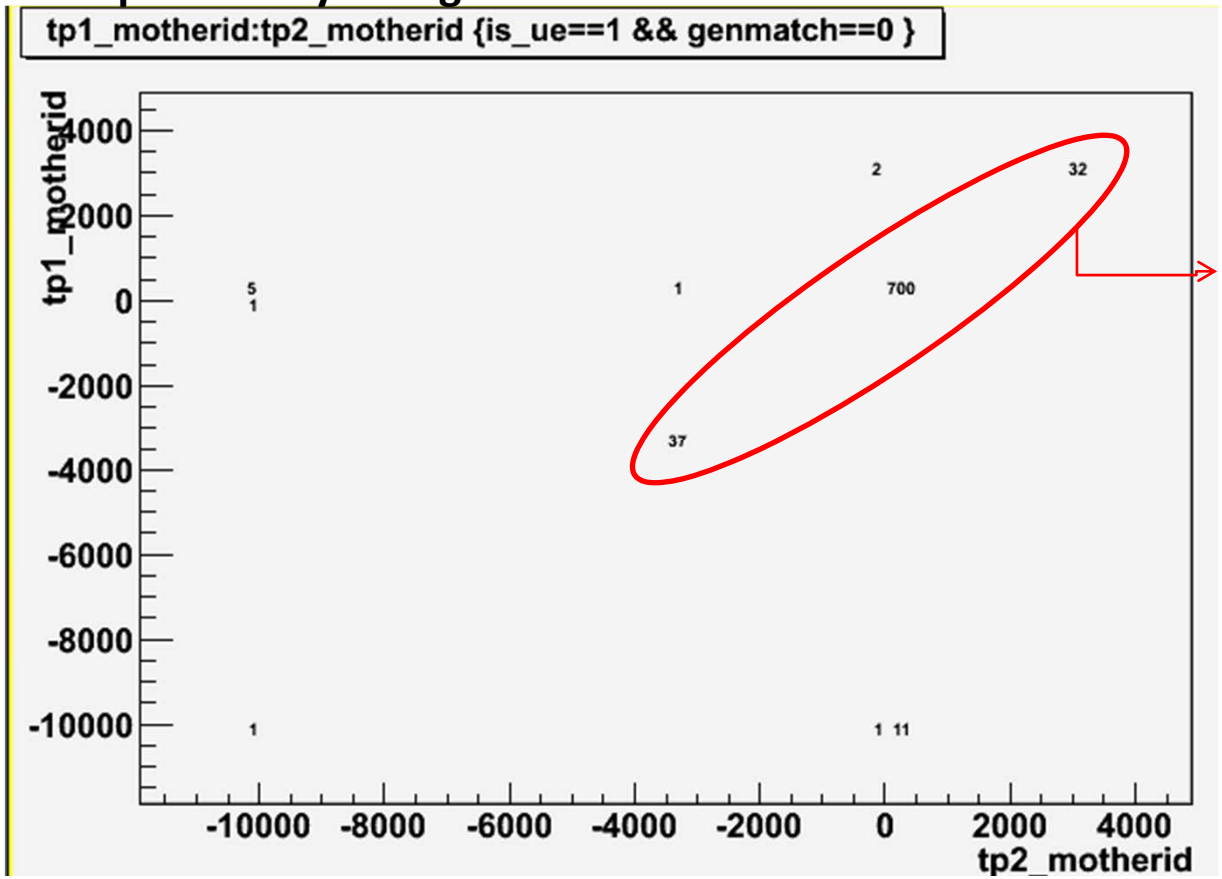
Unmatched K0s

Only those V0s enter this study, which passed all V0 reco cuts and are in the TRANSVERSE REGION.
K0s are those V0s whose mass hypothesis have the largest chi2 probability and the probability is larger than 0.05



791 (3%) unmatched K0s out of 28653:

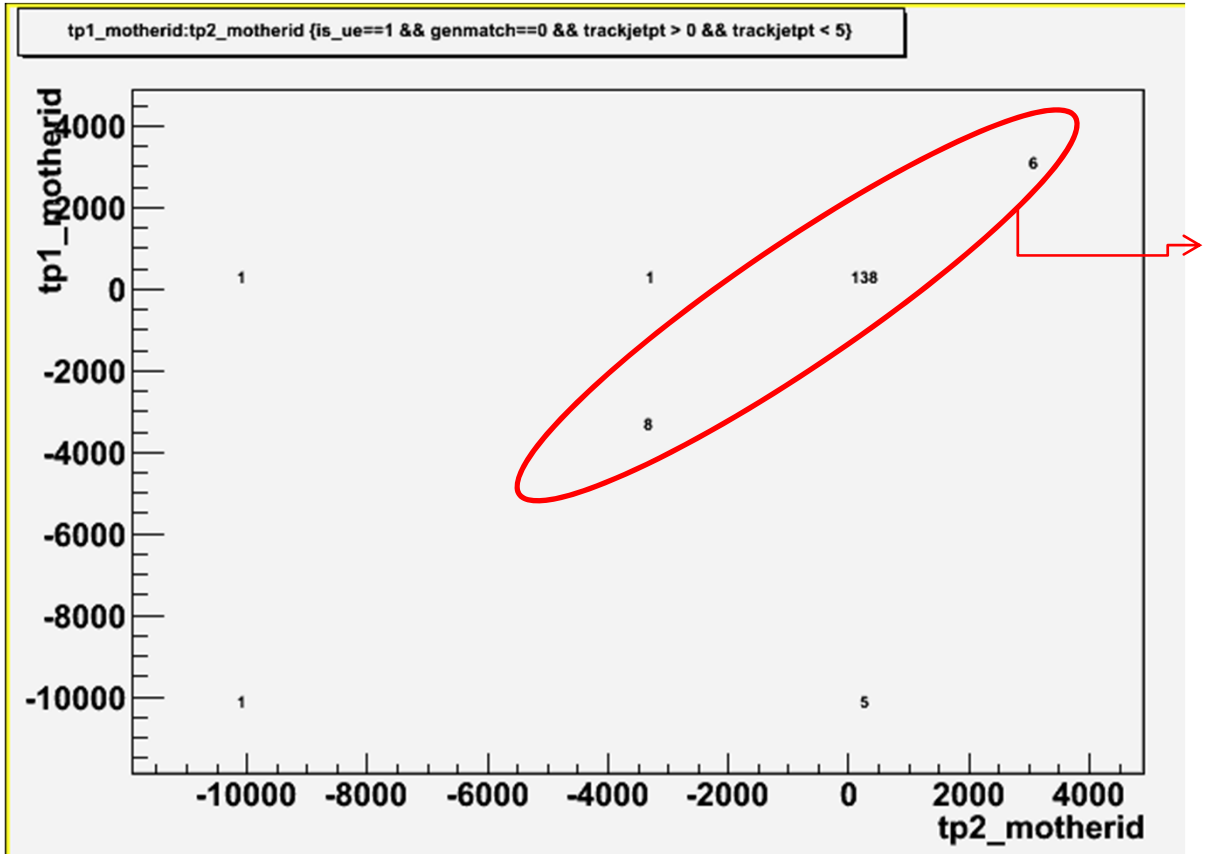
698x (88%) mother id = 310 = K0s
32x (4%) Mother Id = 3122 = Lambda
37x (5%) mother id = -3122 = antilambda

22 (3%) mother ID different for track1 and track2:
Track IDs: electrons, pions, protons, not associated
Mother IDs: k0s, gammas, lambdas, not associated

Plot shows ID of mother to track1 (tp1_motherid) and track2 (tp2_motherid)
- In 3% cases, the two associated trackingparticles show different mothers

Unmatched K0s: Ptjet < 5 GeV

TrackJetPt < 5 GeV



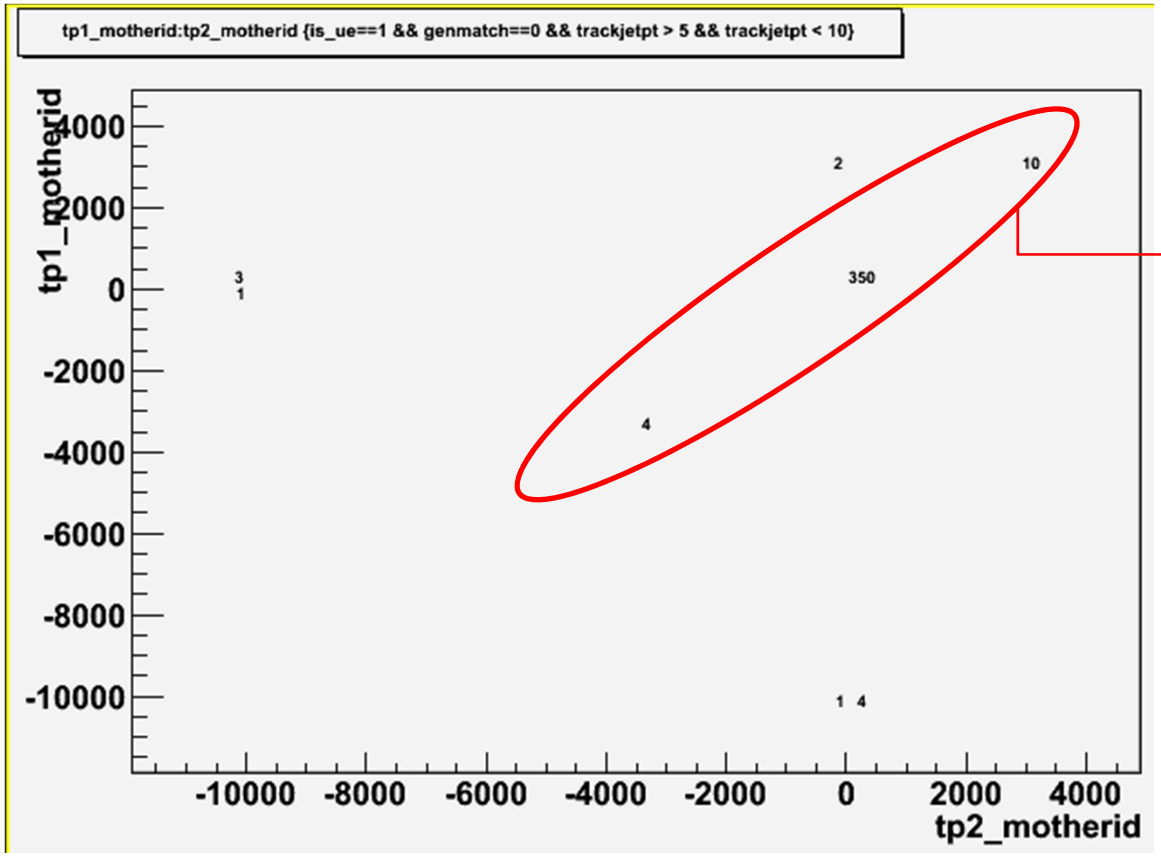
160 (2%) unmatched K0s out of 8104:

137x (86%) mother id = 310 = K0s
6x (4%) Mother Id = 3122 = Lambda
8x (5%) mother id = -3122 = antilambda

7 (4%) mother ID different for track1 and track2

Unmatched K0s: Ptjet > 5 GeV

5 < TrackJetPt < 10 GeV



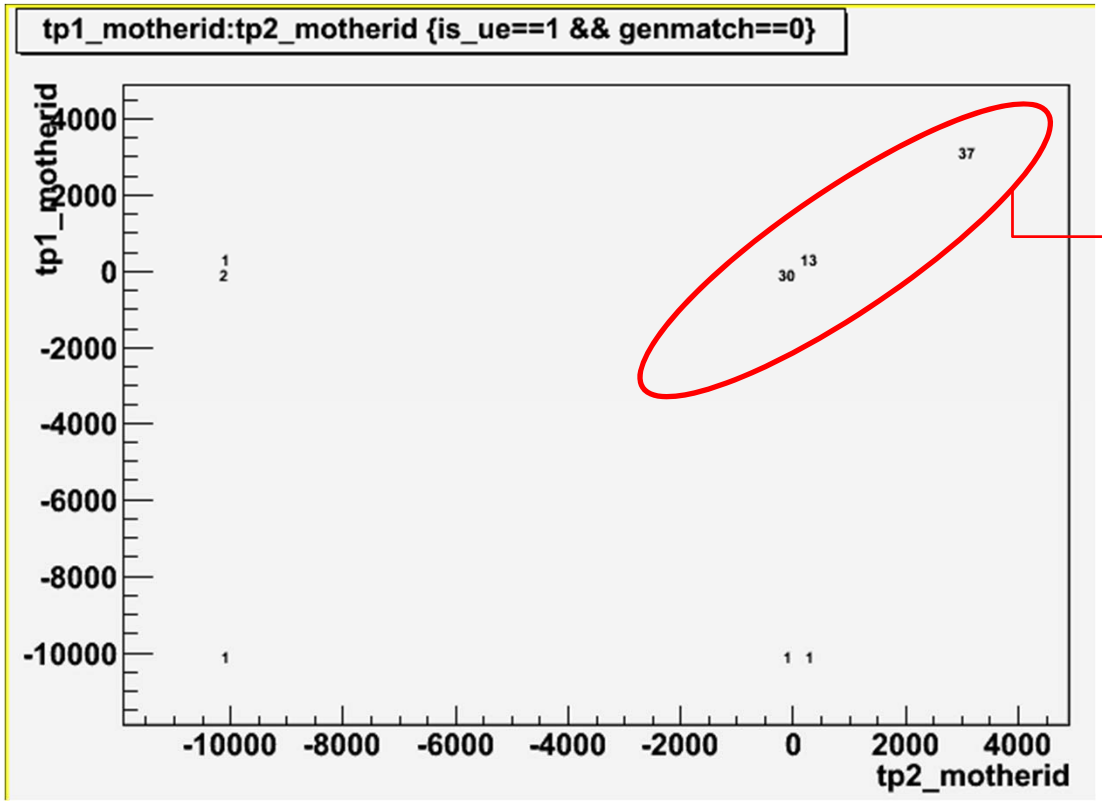
375 (6%) unmatched K0s out of 6260:

349x (93%) mother id = 310 = K0s
10x (3%) Mother Id = 3122 = Lambda
4x (1%) mother id = -3122 = antilambda

12 (3%) mother ID different for track1 and track2

Unmatched Lambdas

Lambdas are those V0s that have largest chi2 probability and probability > 0.05



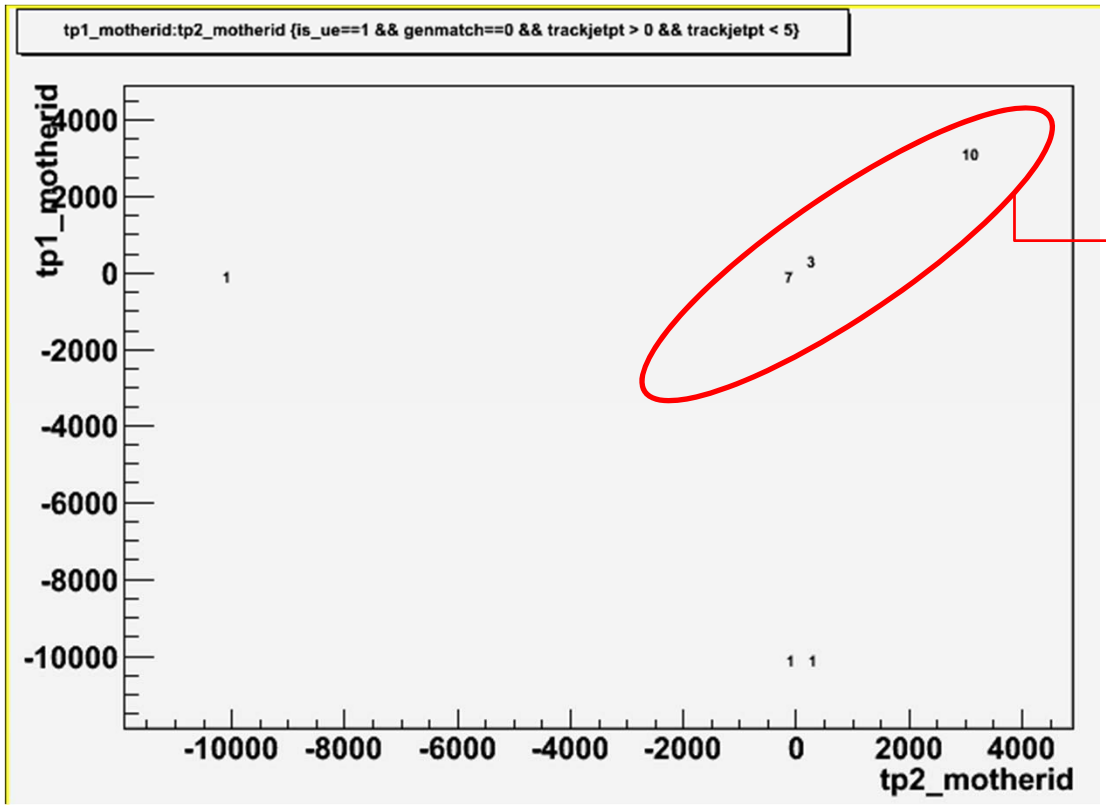
86 (6%) unmatched Lambdas out of 1524 :

37x (43%) mother id = 3122 = Lambda
30x (35%) mother Id = 22 = gamma
13x (15%) mother id = 310 = K0s

5(6%) mother ID different for track1 and track2:
Track IDs: electrons, pions, not associated
Mother IDs: gammas, K0s, not associated

Unmatched Lambdas: Ptjet < 5 GeV

TrackJetPt < 5 GeV



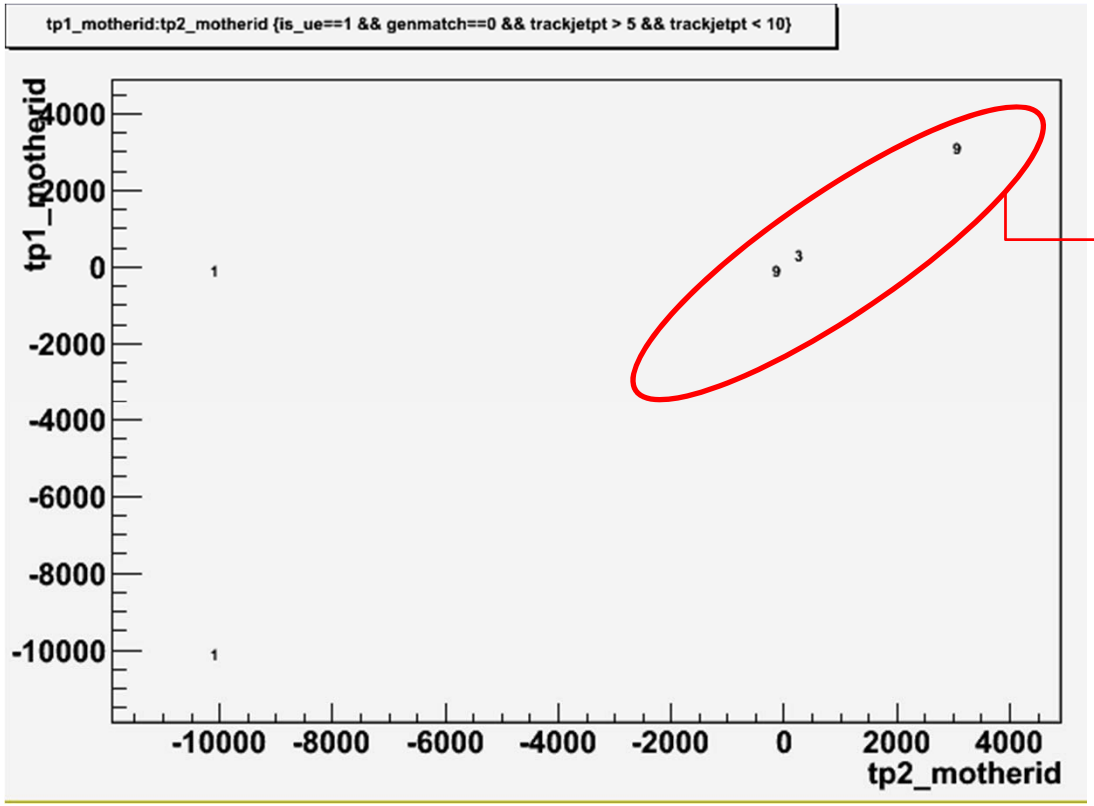
23 (5%) unmatched Lambdas out of 444:

10x mother id = 3122 = Lambda
7x mother Id = 22 = gamma
3x mother id = 310 = K0s

3 mother ID different for track1 and track2

Unmatched Lambdas: Ptjet > 5 GeV

5 < TrackJetPt < 10 GeV



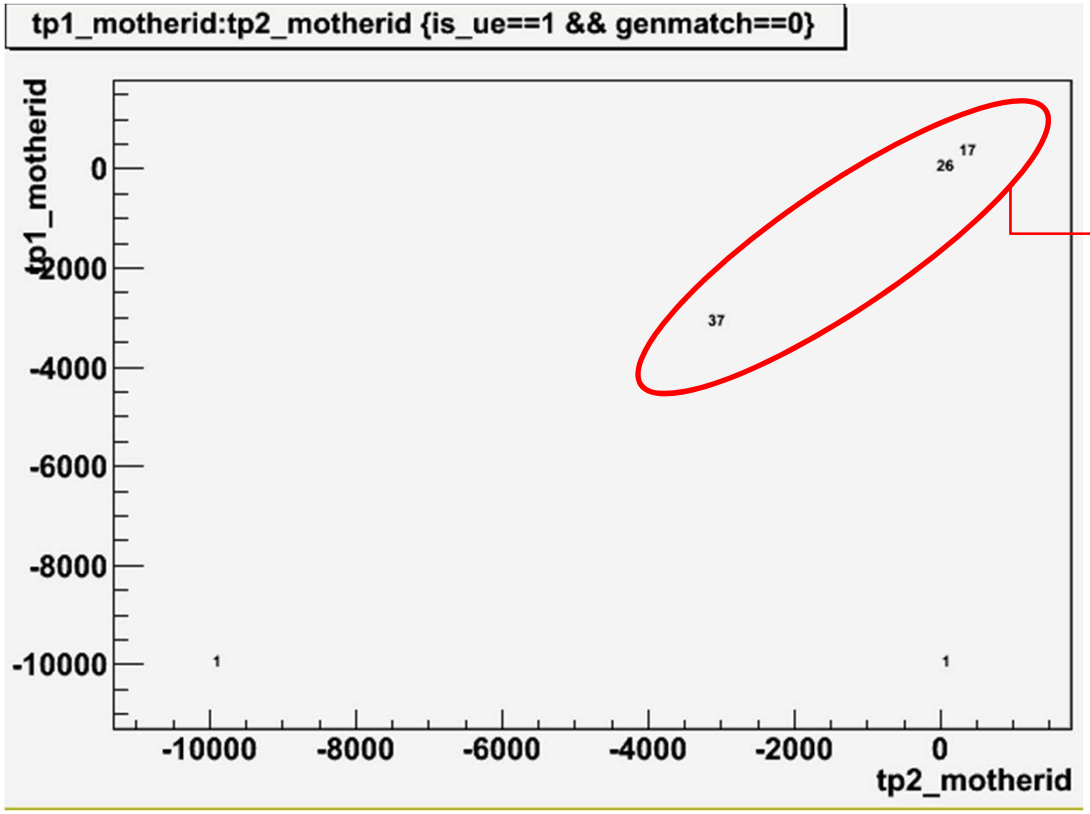
23 (6%) unmatched Lambdas out of 410:

9x mother id = 3122 = Lambda
9x mother Id = 22 = gamma
3x mother id = 310 = K0s

1 mother ID different for track1 and track2

Unmatched Antilambdas

Antilambdas are those V0s that have largest chi2 probability and probability > 0.05

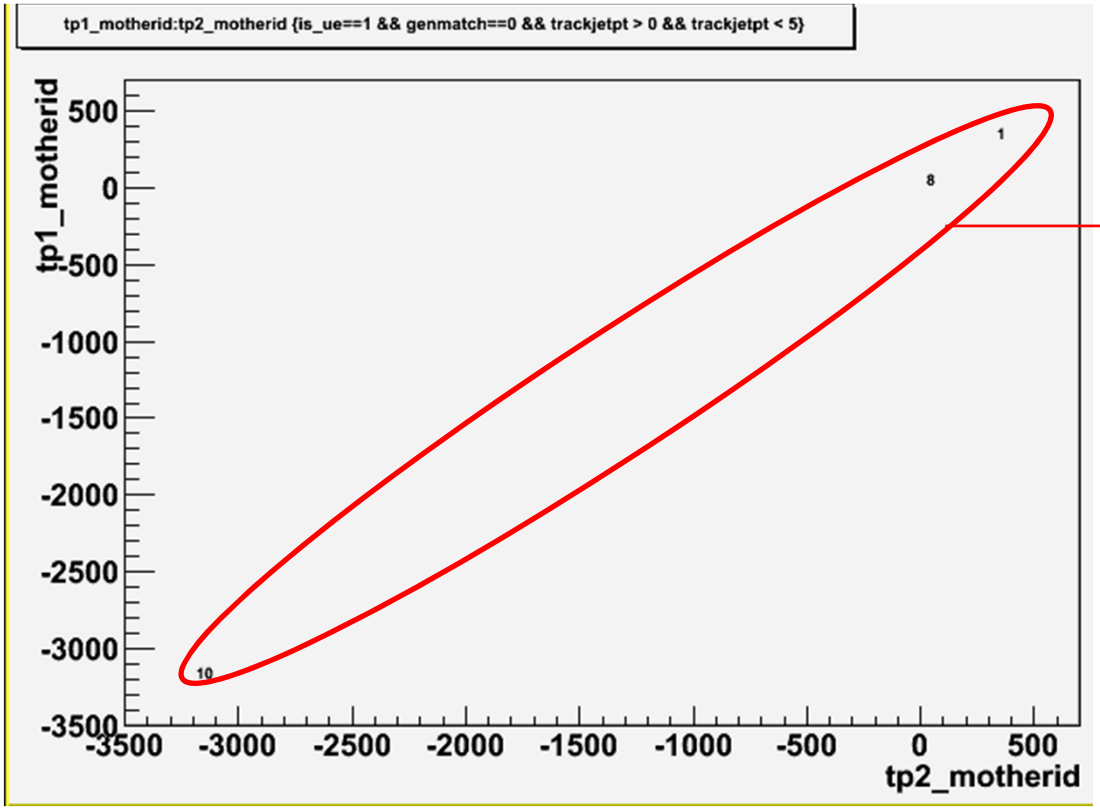


82 (7%) unmatched antilambdas out of 1181 :

37x (45%) mother id = -3122 = AntiLambda
26x (32%) mother Id = 22 = gamma
17x (21%) mother Id = 310 = K0s

Unmatched Antilam: Ptjet < 5GeV

TrackJetPt < 5 GeV

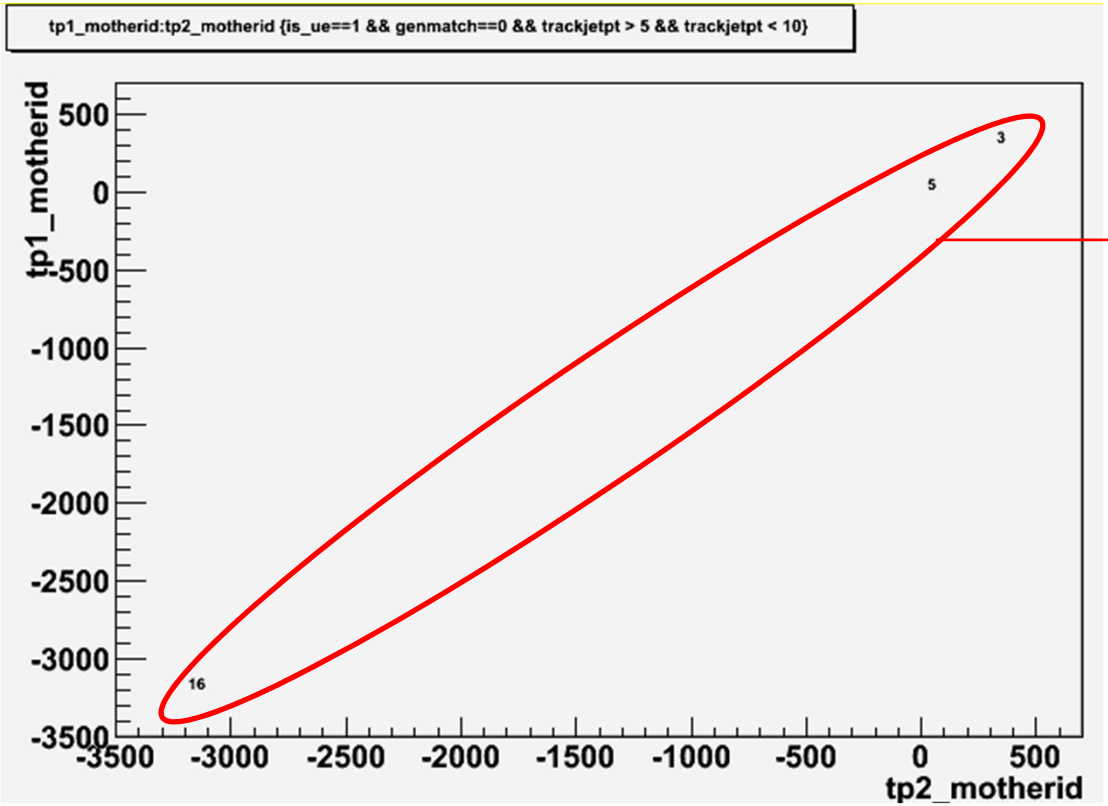


19 (6%) unmatched antilambdas out of 325:

10x mother id = -3122 = AntiLambda
8x mother Id = 22 = gamma
1x mother Id = 310 = K0s

Unmatched Antilam: Ptjet > 5GeV

5 < TrackJetPt < 10 GeV



24 (7%) unmatched antilambdas out of 333:

16x mother id = -3122 = AntiLambda
5x mother Id = 22 = gamma
3x mother Id = 310 = K0s

Summary for transverse region

- Fraction of unmatched K0s is larger at higher trackjet Pt even in transverse region (2% -> 6%)
- Fraction of unmatched Lambdas/Antilambdas does not change with trackjet Pt
- High fraction of unmatched V0s have the correct ID