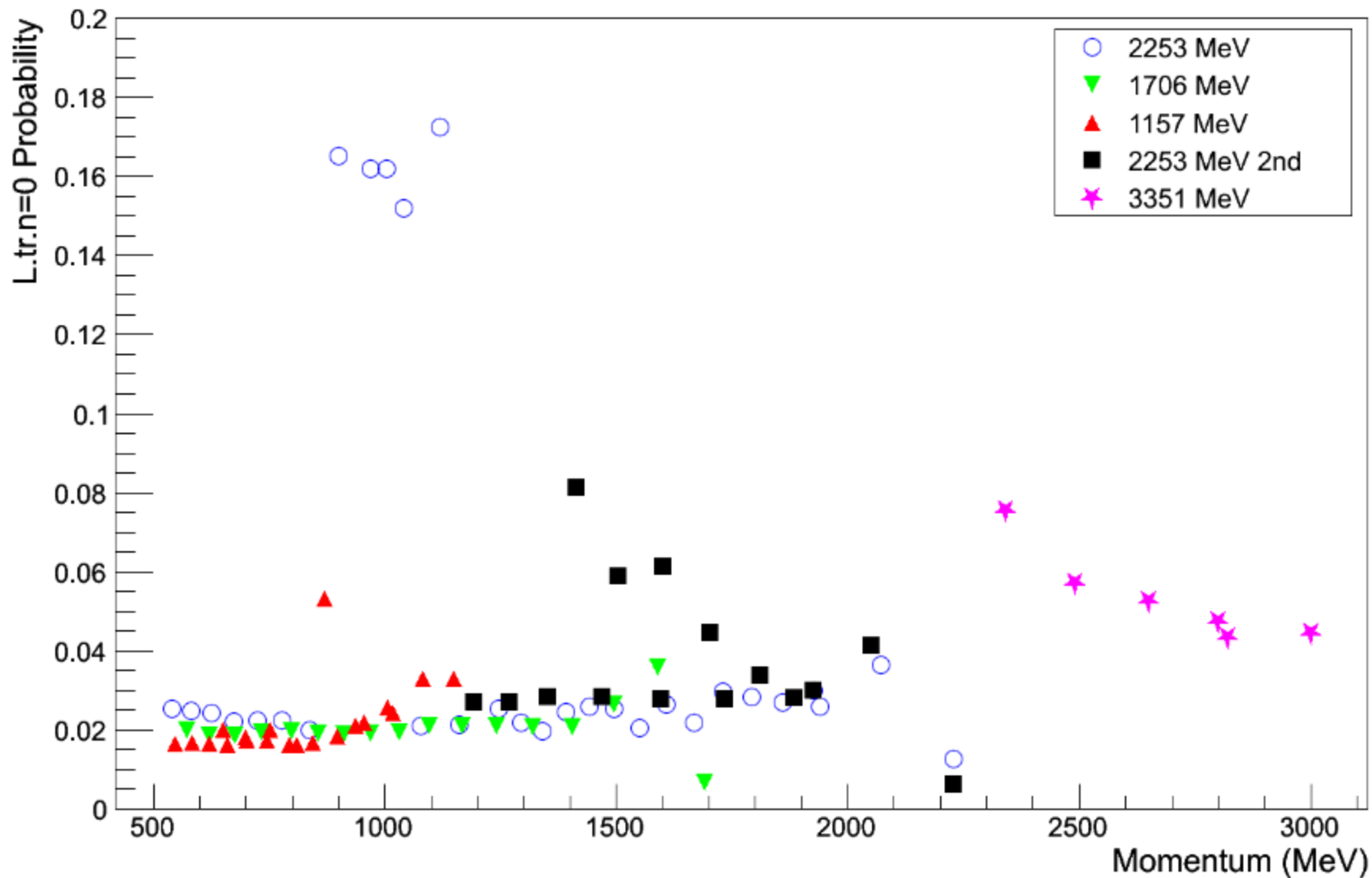


# Multi-track efficiency

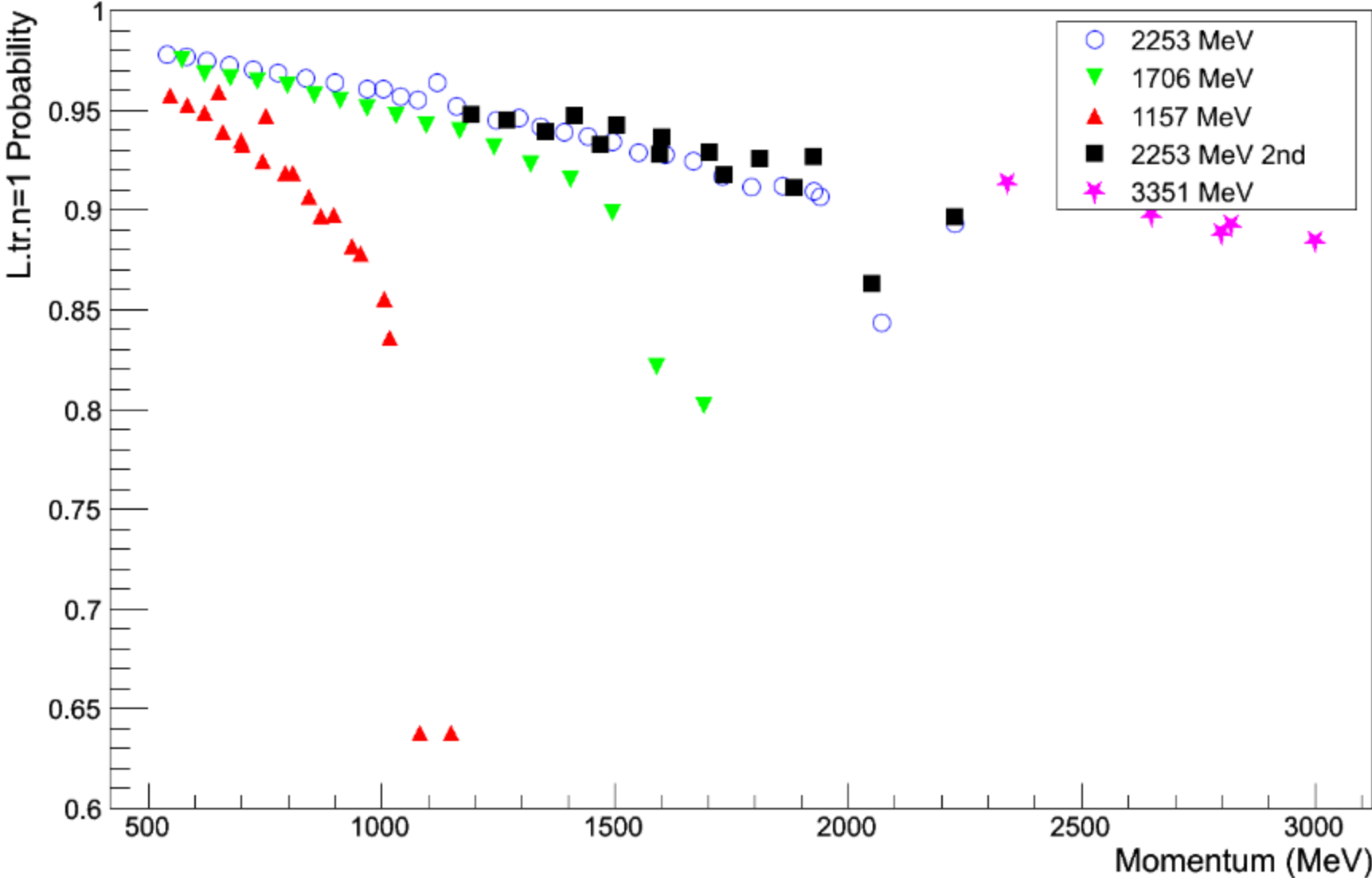
## ➤ Outline

- LHRS multi-track probability
- 2 track efficiency

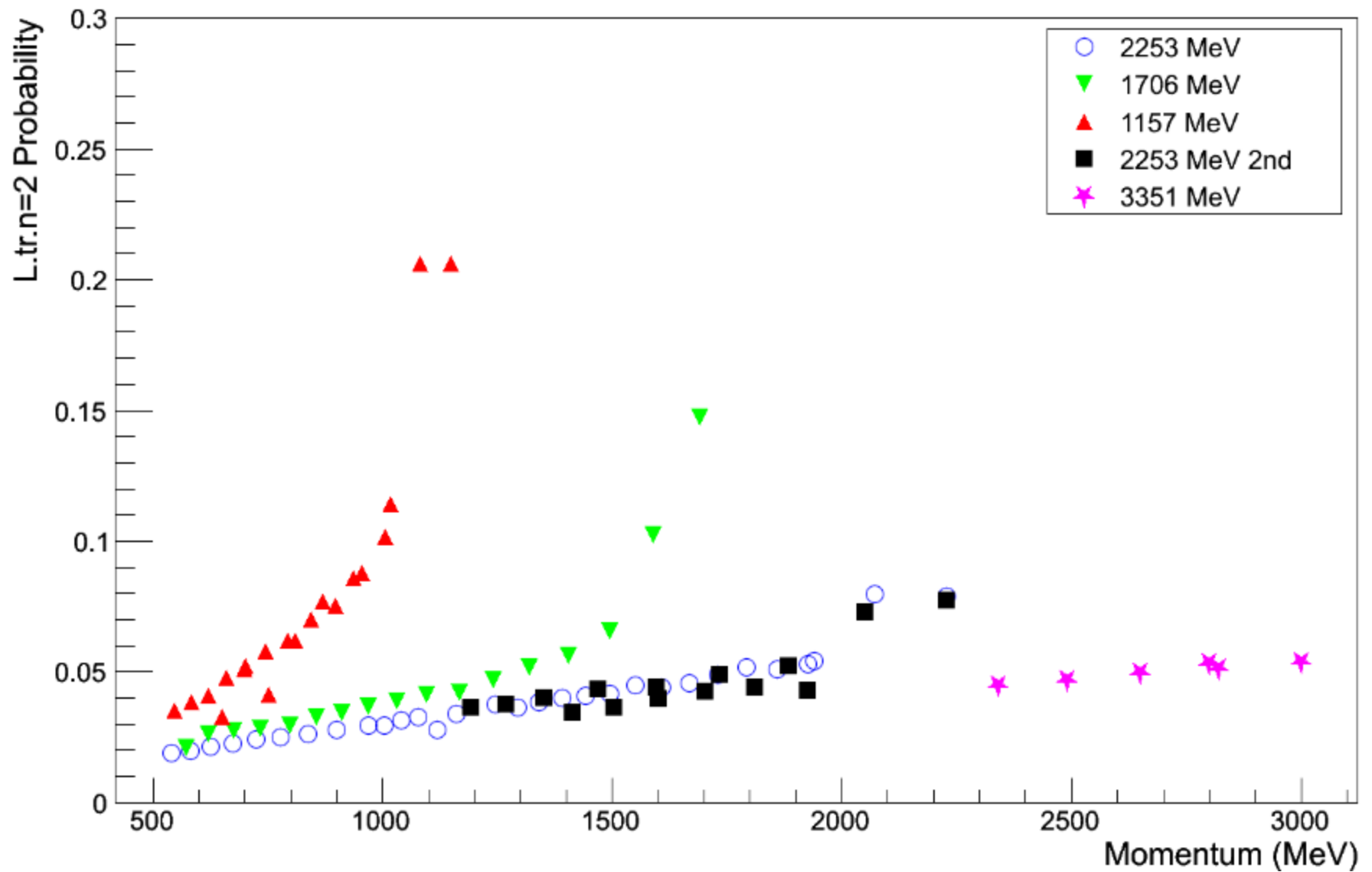
L.tr.n=0 track probability versus spectrometer momentum



L.tr.n=1 track probability versus spectrometer momentum

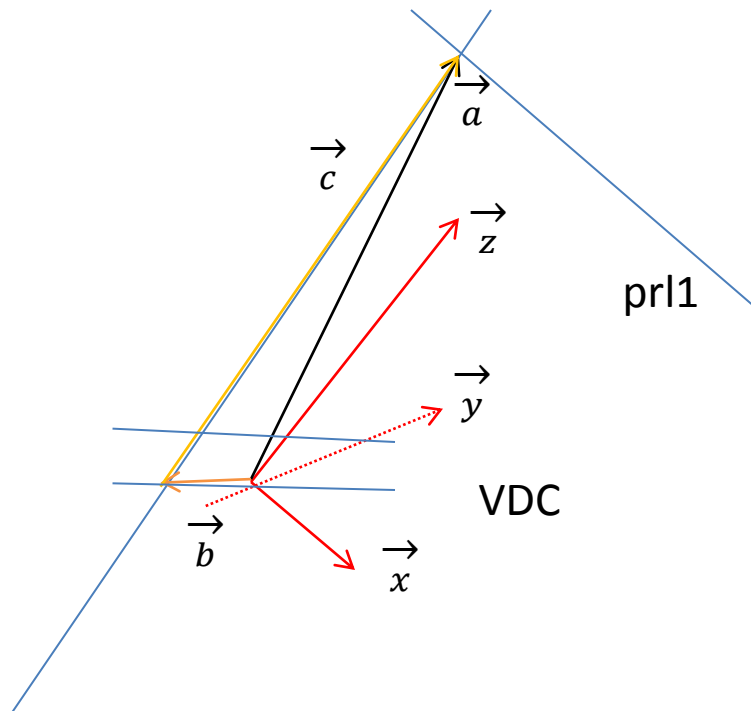


L.tr.n=2 track probability versus spectrometer momentum

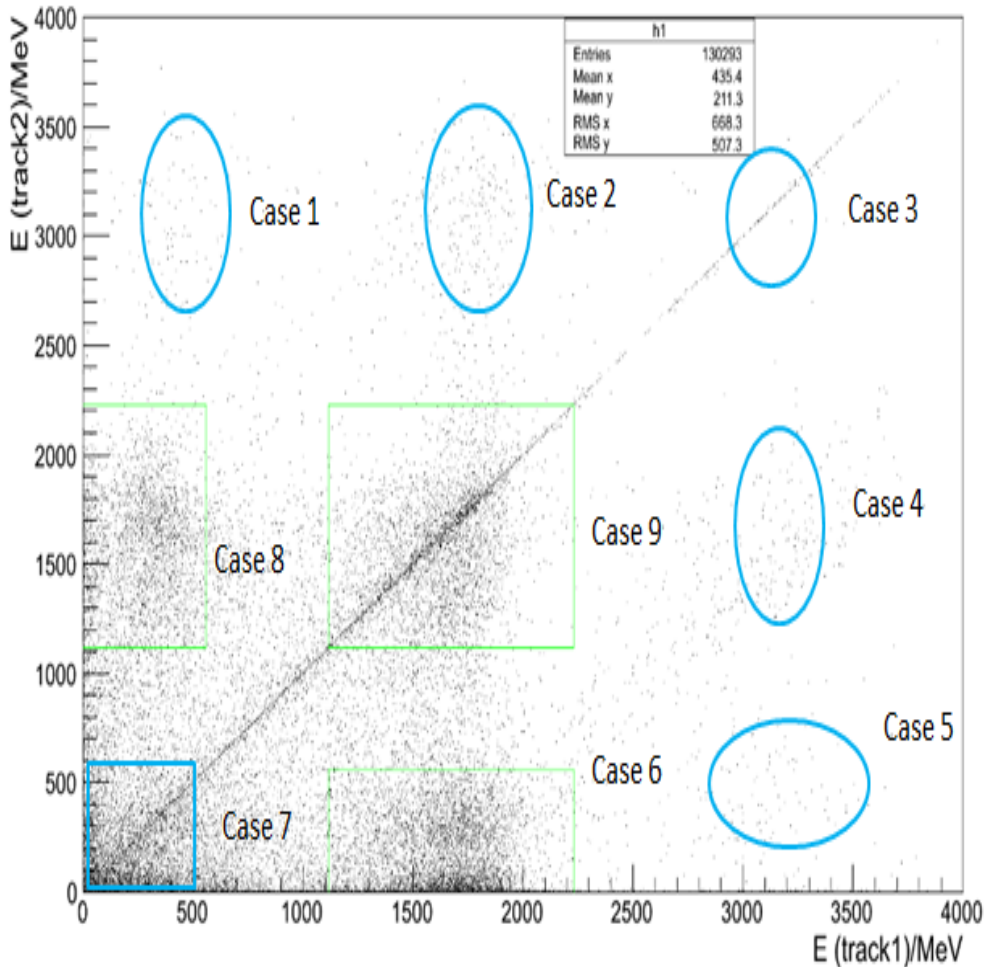


# Multi-track study

- **Multi-track Reconstruct (not included in analyzer)**
  - Project track from VDC to shower
  - Track position at prl1 and prl2
  - Deposited energy summed near track position (total  $3*2$ )

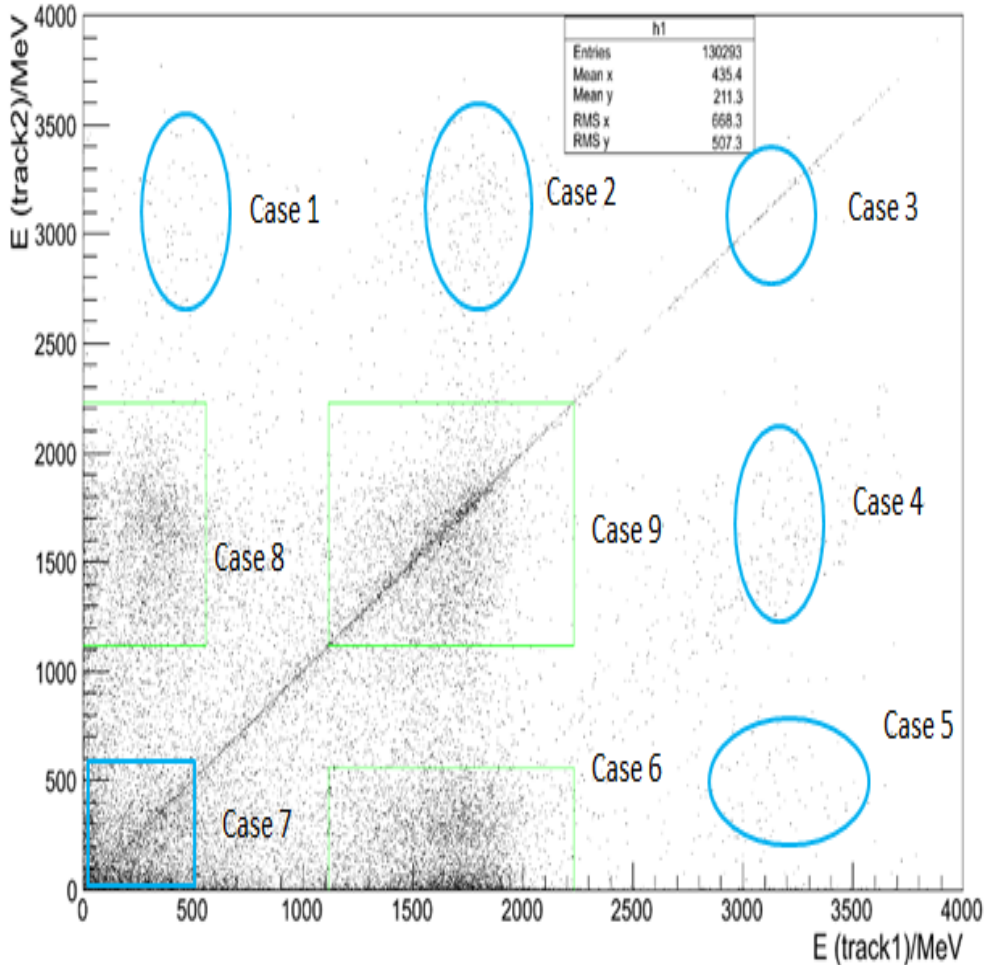


E (track1) VS. E (track2) for p0=1859.0, runnum=3772



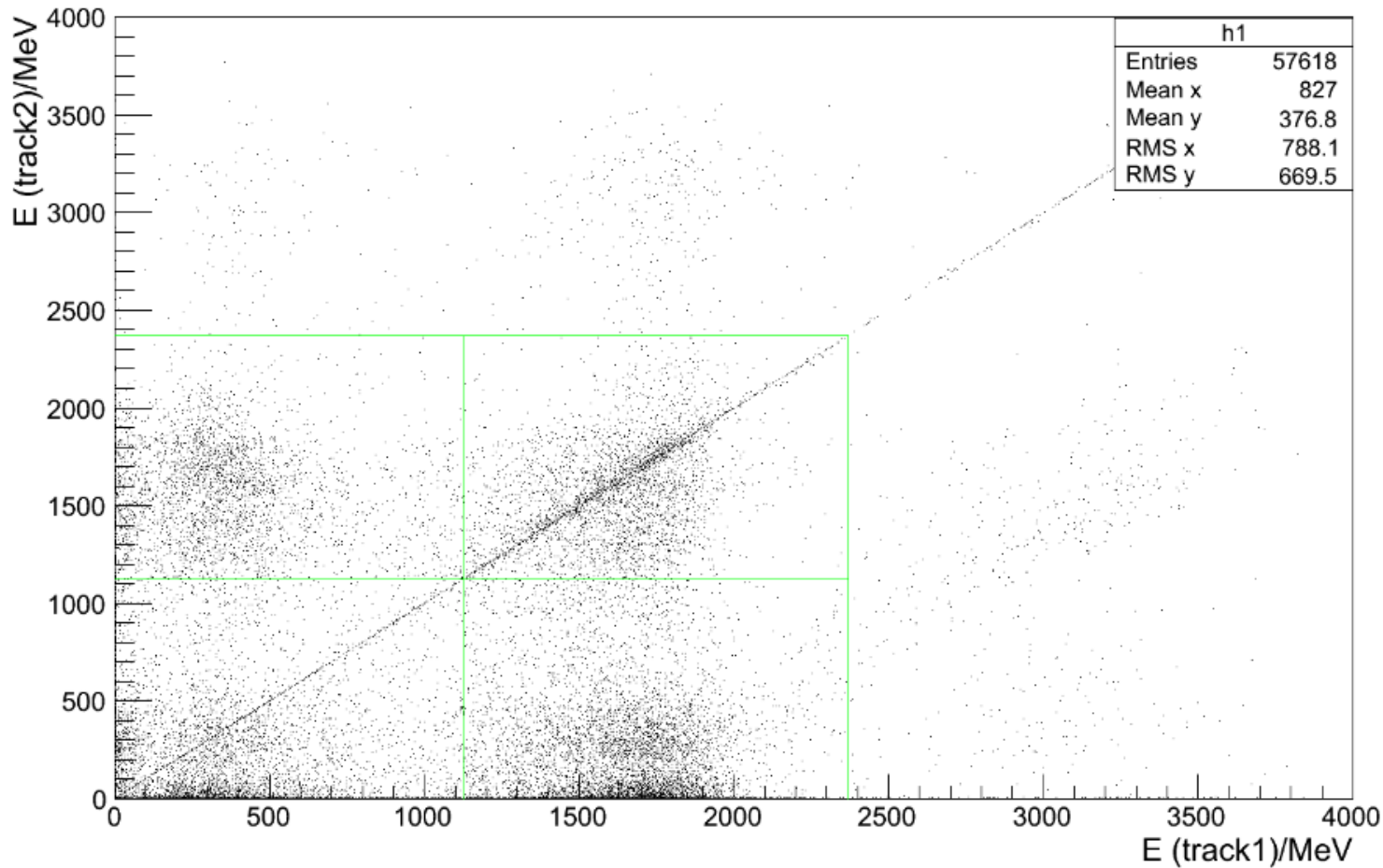
- Case9:
  - $E1 \approx P, E2 \approx P$
  - Need further distinguish:
    - Case 9-1: Track overlap (x distance less than one block)  
Single good track
    - Case 9-2: Track overlap (x distance more than one block)  
Two good tracks

E (track1) VS. E (track2) for p0=1859.0, runnum=3772



- Single good track:
  - Case6      13.90%
  - Case 8      3.31%
  - Case 9-1    2.22%
  - Total ratio: 19.43%
  
- VDC failed identify tracks:
  - Case 1
  - Case 2
  - Case 3
  - Case 4
  - Case 5
  - Total ratio: 0.72%
  
- 2 good tracks:
  - Case 9-2    2.32%
  - Total ratio: 2.32%
  
- No tracks
  - Case 7      68.68%
  - Total ratio 68.68%

# E (track1) VS. E (track2)for p0=1859.0, #3772

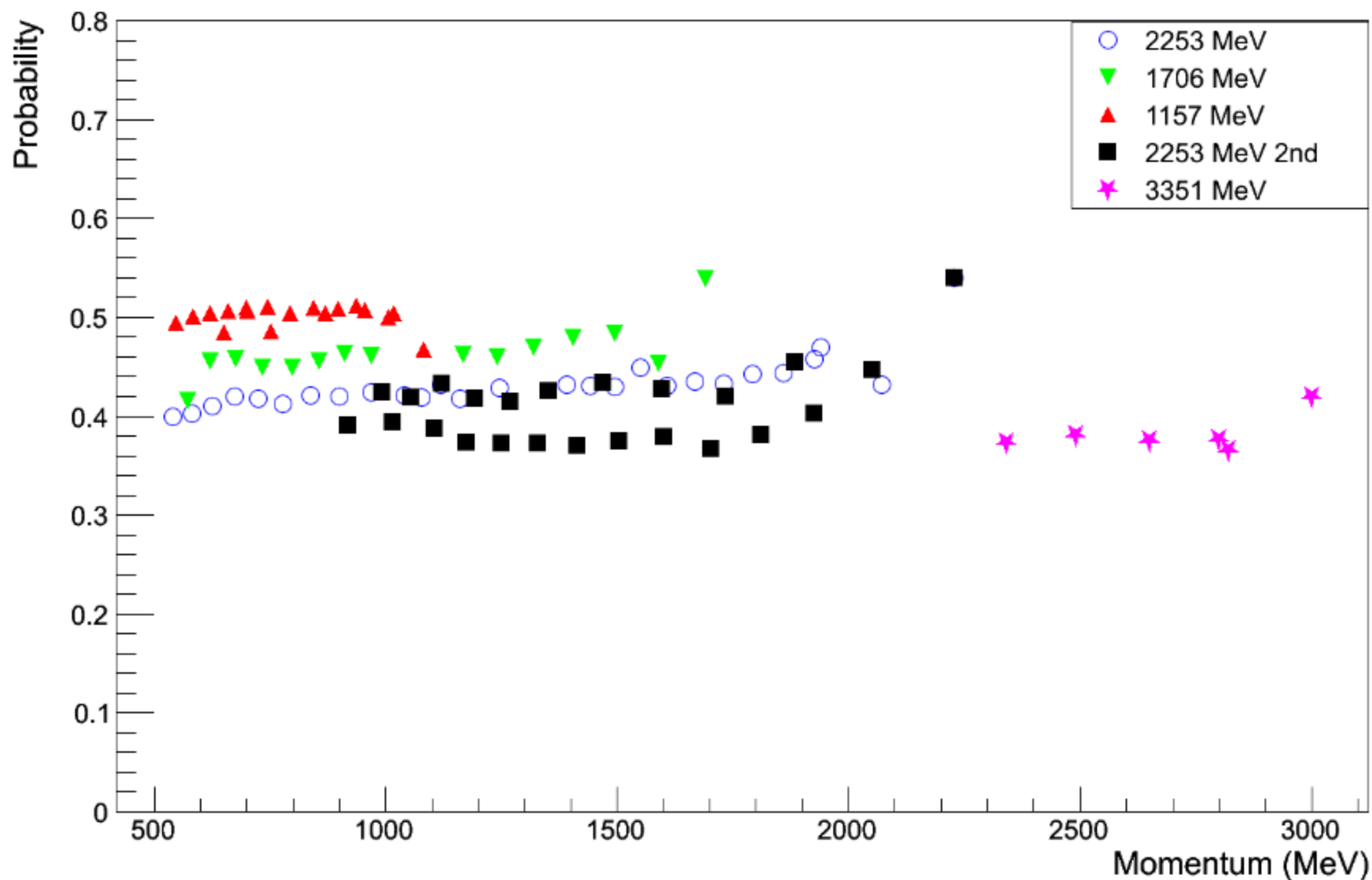


5/7

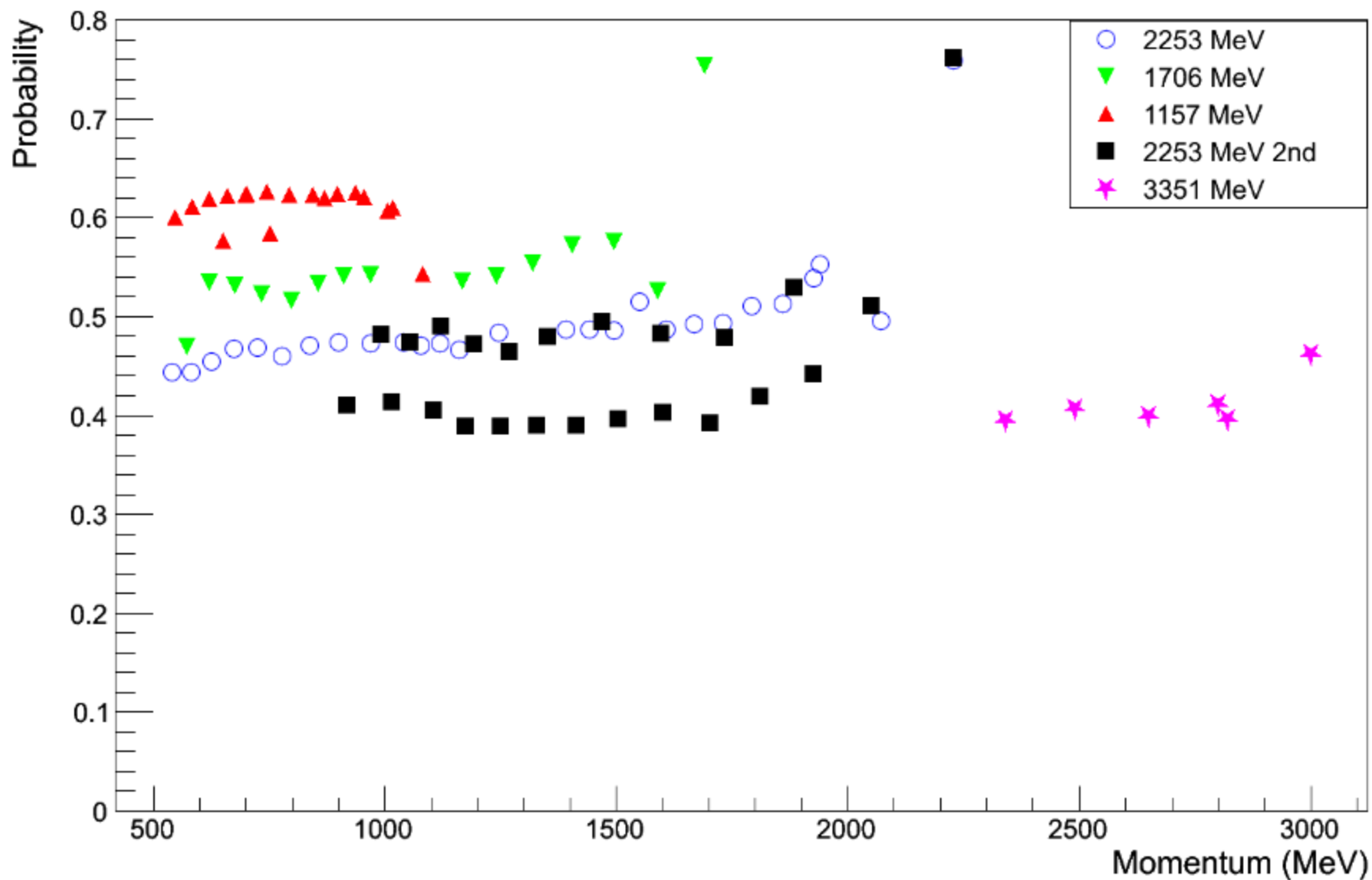
- Single good track :0.4424
- At-least-one-good track:0.523



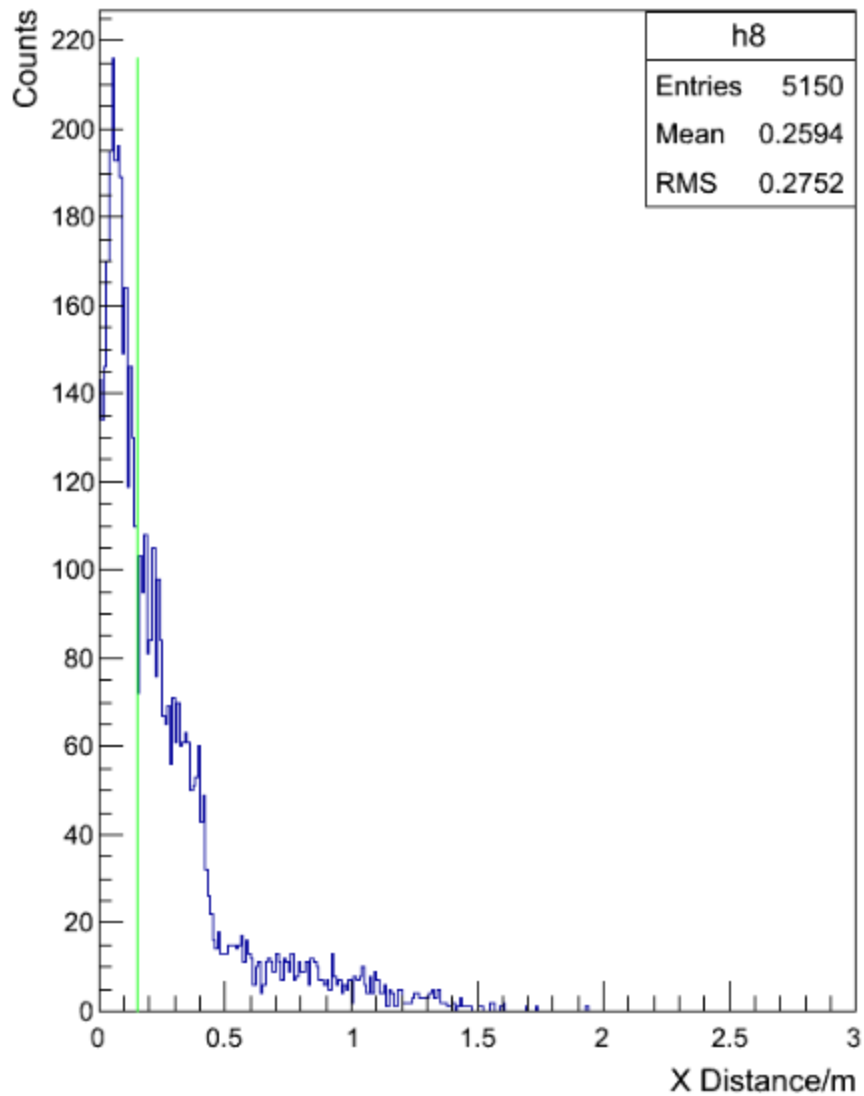
Single good track probability versus spectrometer momentum



At-least-one-good-track probability versus spectrometer momentum



X distance distribution for E\_track1~P,E\_track2~P at prl1 for p0=1859.0, #3772



Y distance distribution for E\_track1~P,E\_track2~P at prl1 for p0=1859.0, #3772

