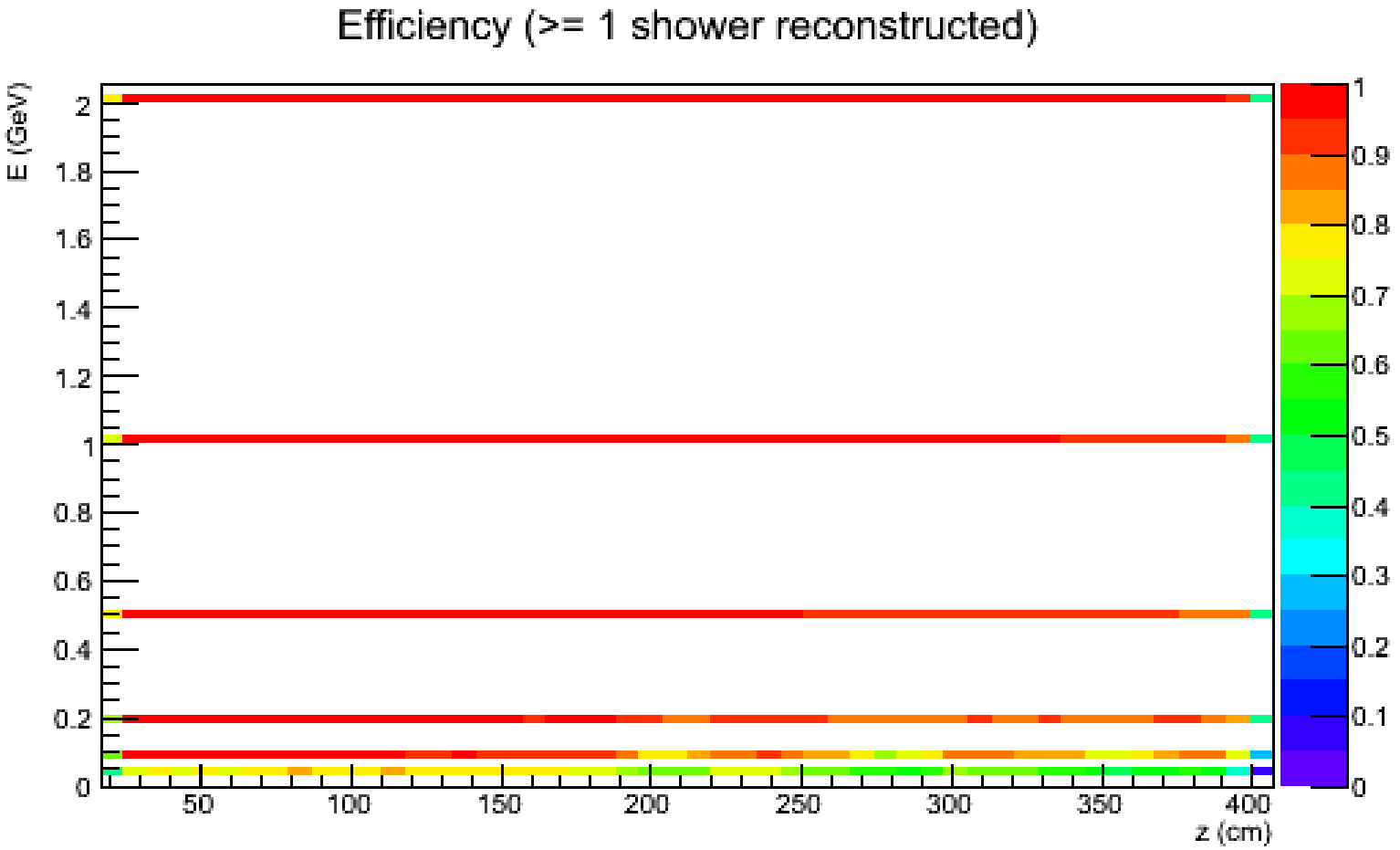
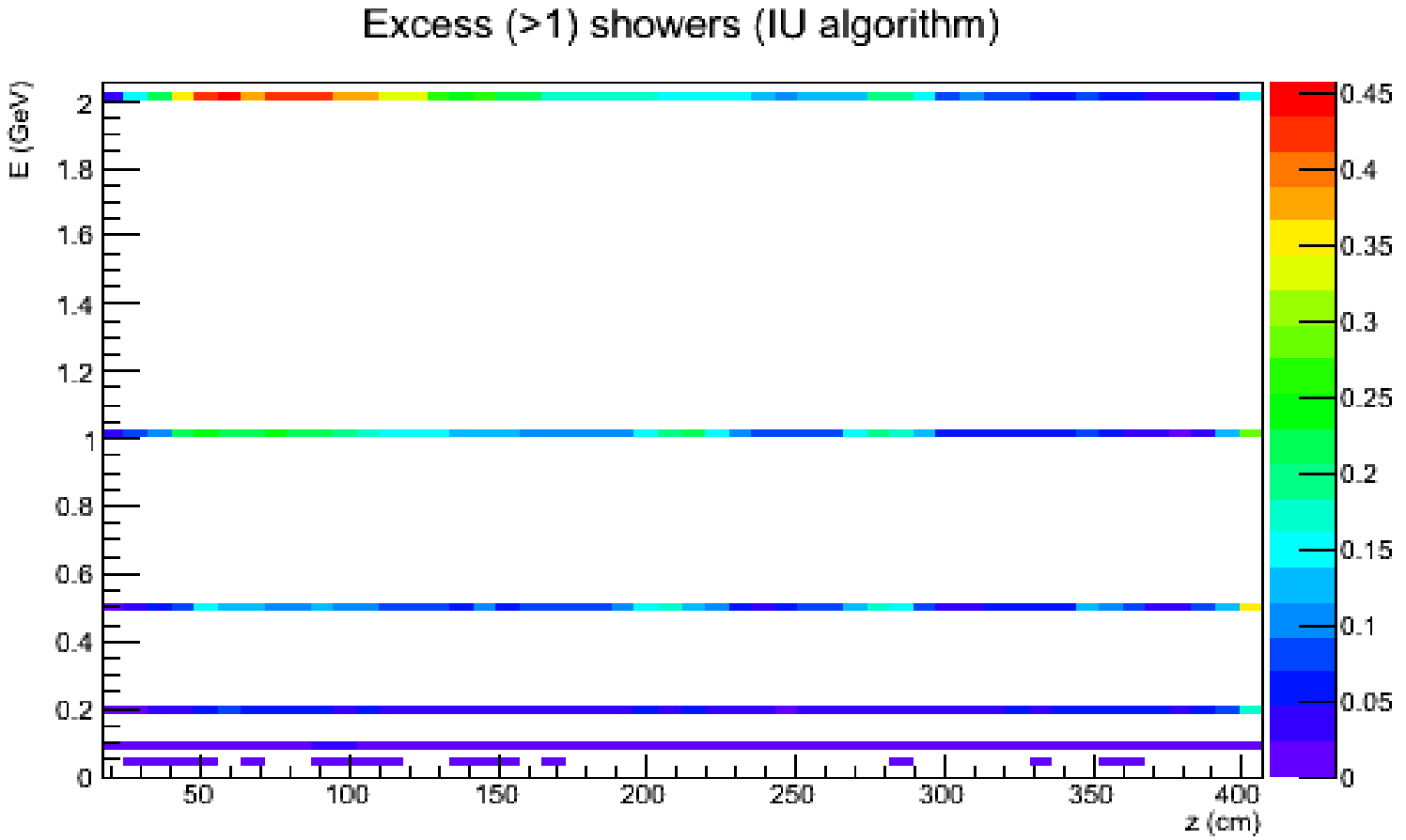
Photon Sample

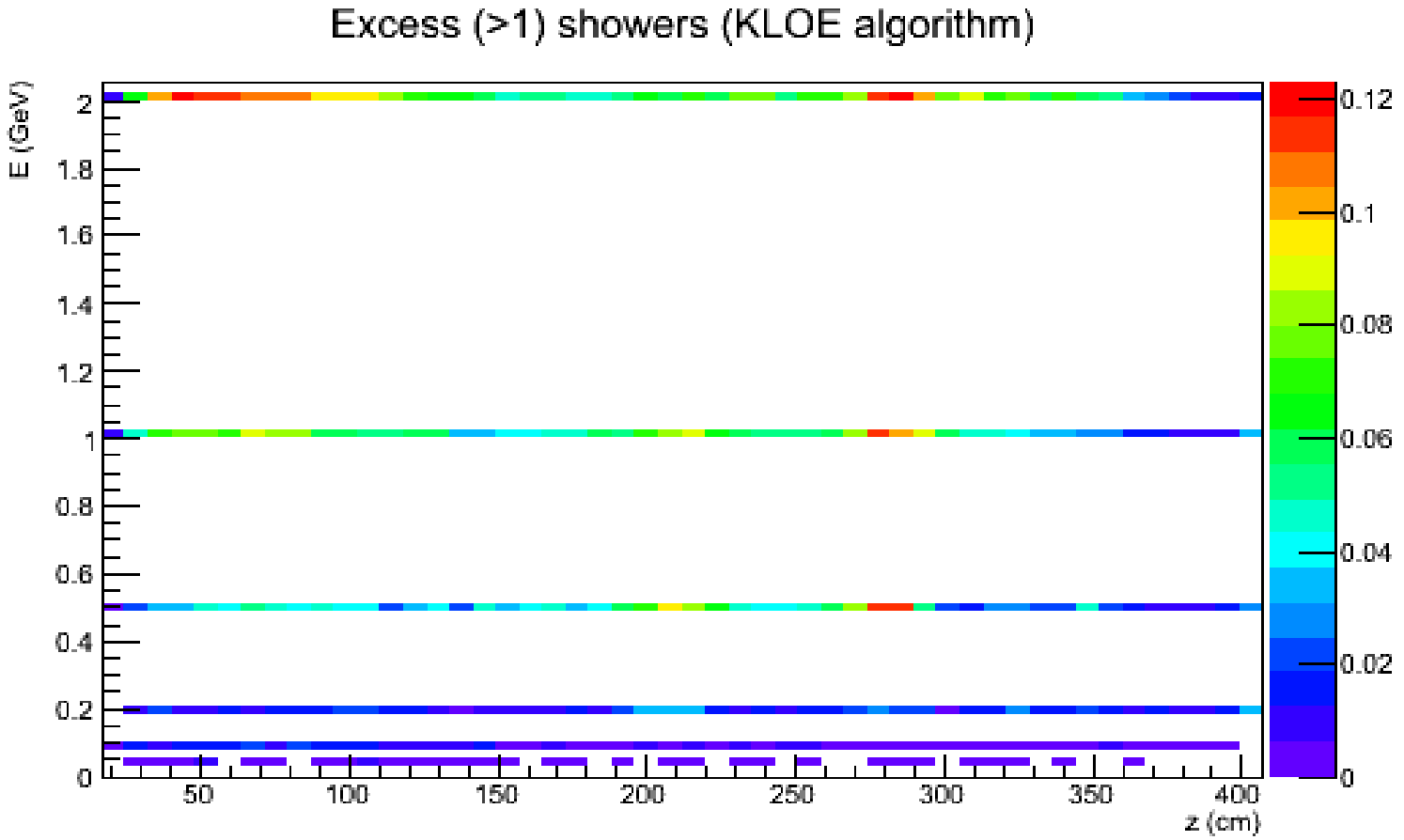
- Equally distributed in z
- E = 50, 100, 200, 500, 1000, 2000 MeV



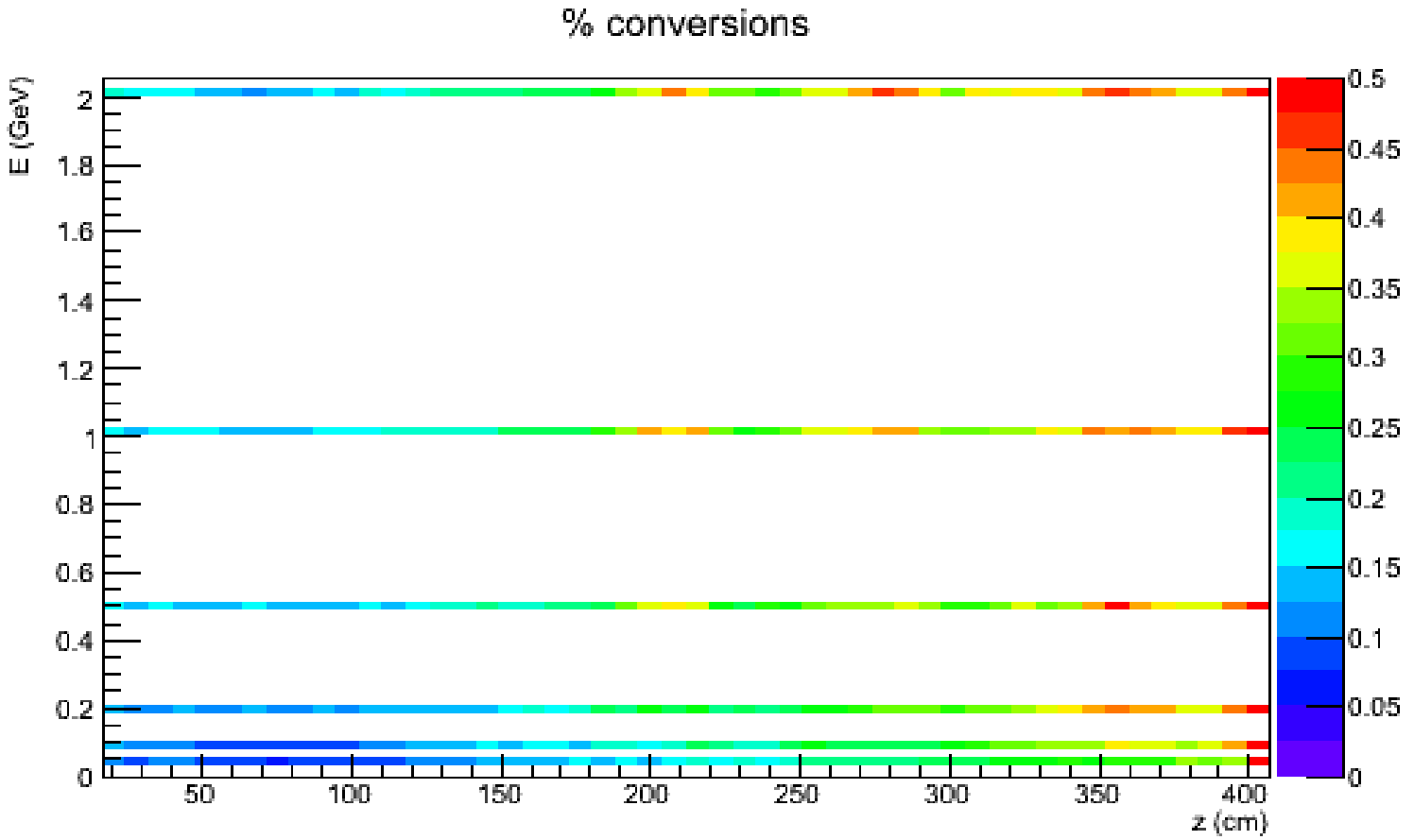
Too many clusters (IU)



Too many clusters (KLOE)



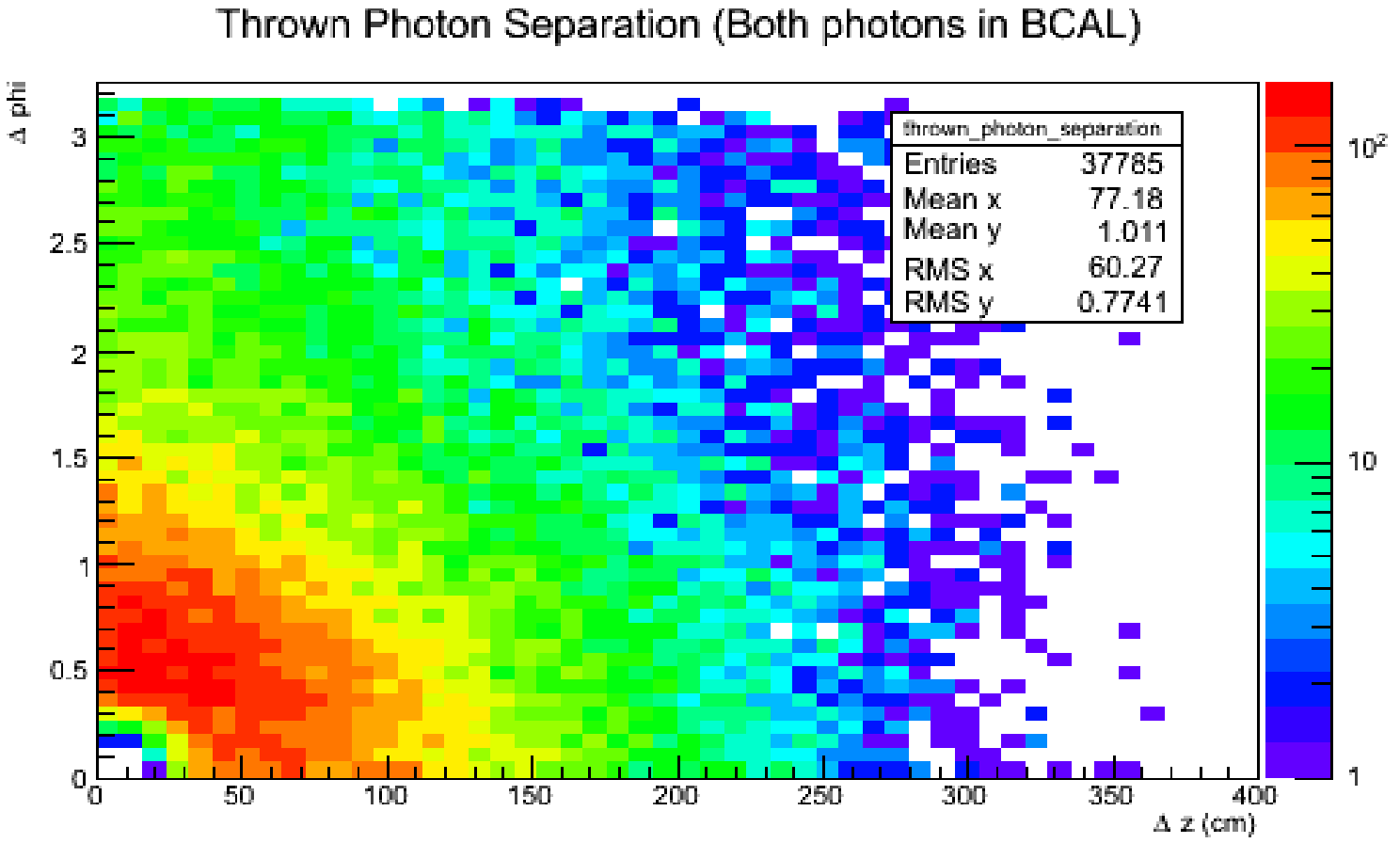
Conversions



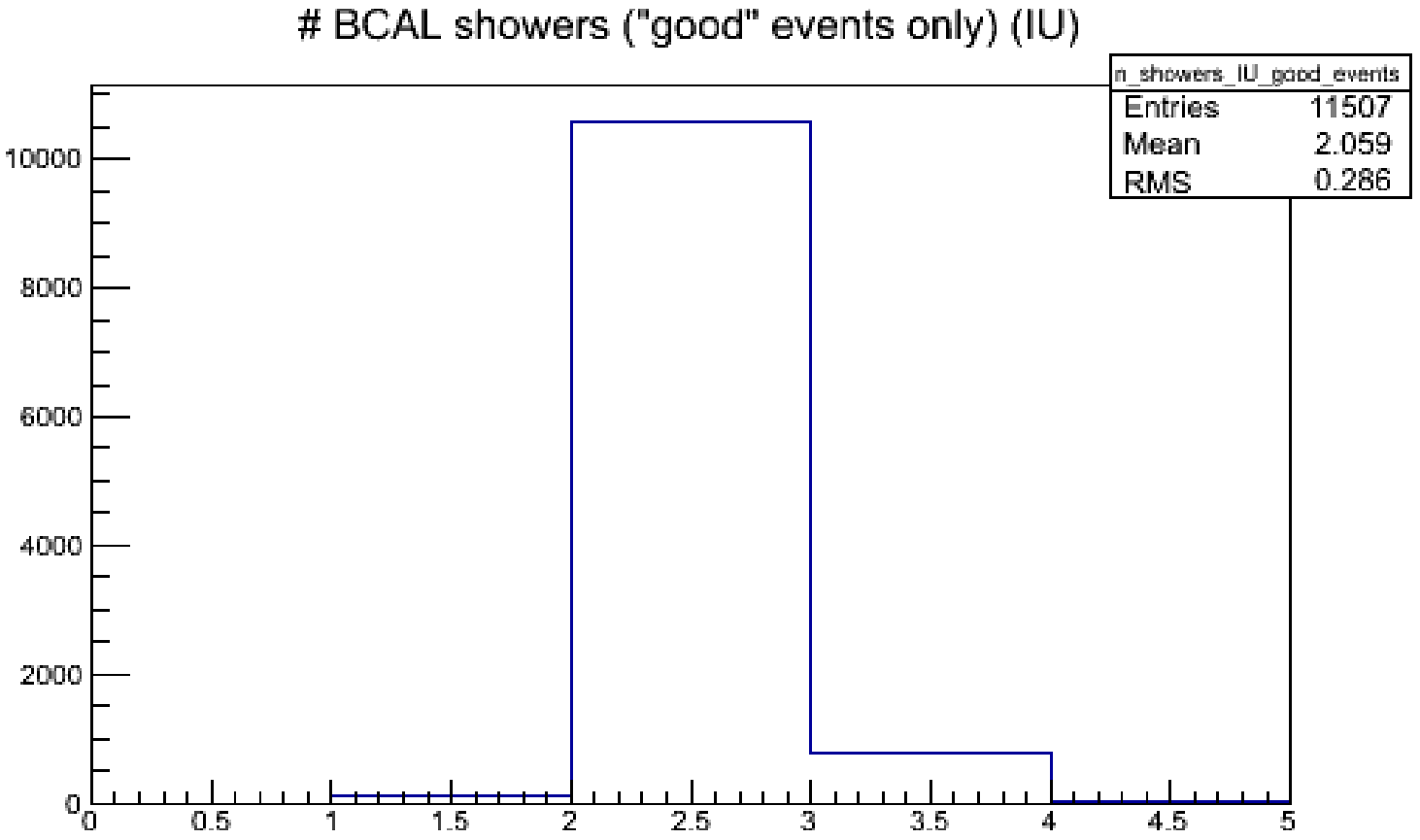
Pi0 sample

- ~66,000 pi0's from pythia

Pi0 decay photon separation

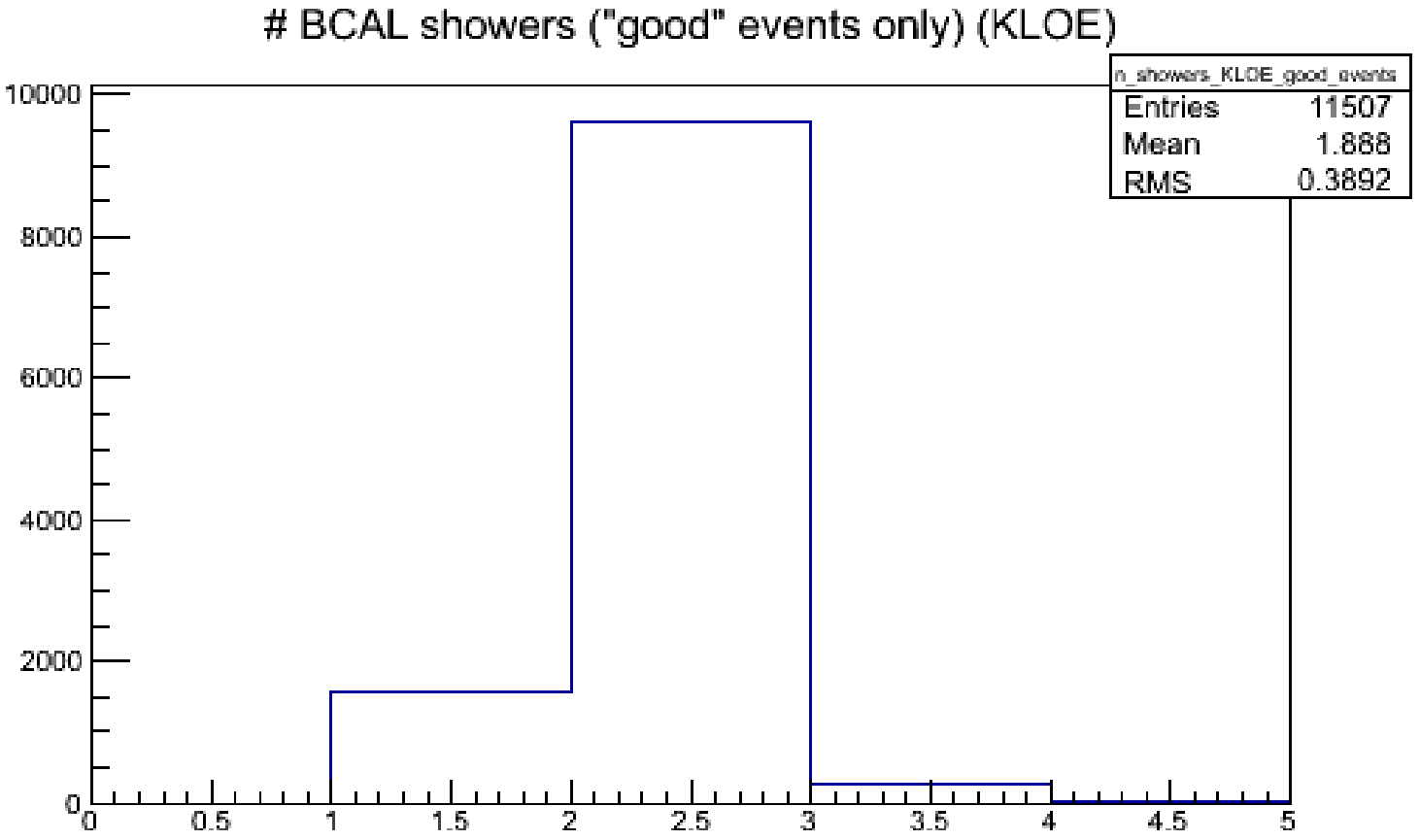


Can we do clustering without TDC info? Maybe?



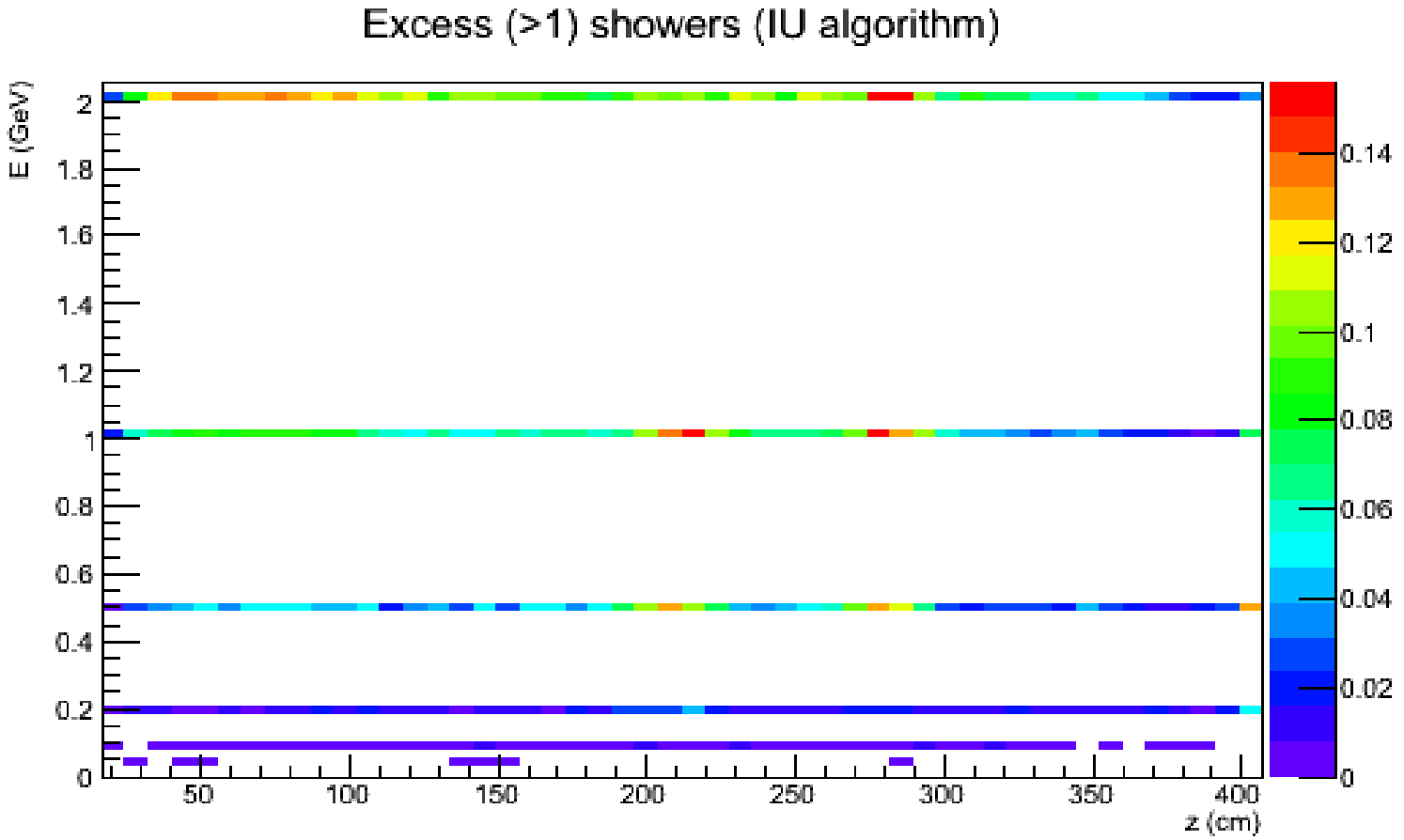
“Good event”: both photons in BCAL (no conversion), both have E > 100 MeV

Should see exactly two showers


BCAL showers ("good" events only) (KLOE)
n_showers_KLOE_good_events
Entries 11507
Mean 1.888
RMS 0.3892
10000
8000
6000
4000
2000
0
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5

- IU algorithm reconstructs too many clusters, KLOE reconstructions too few
- Can we do better?
- Make some ad-hoc changes to IU algorithm to force it to merge certain “close” clusters

Excess showers, modified algorithm



Reduces excess showers by ~50%

Pi0 sample, modified algorithm