Angular Dispersion with BT Gamma data Update

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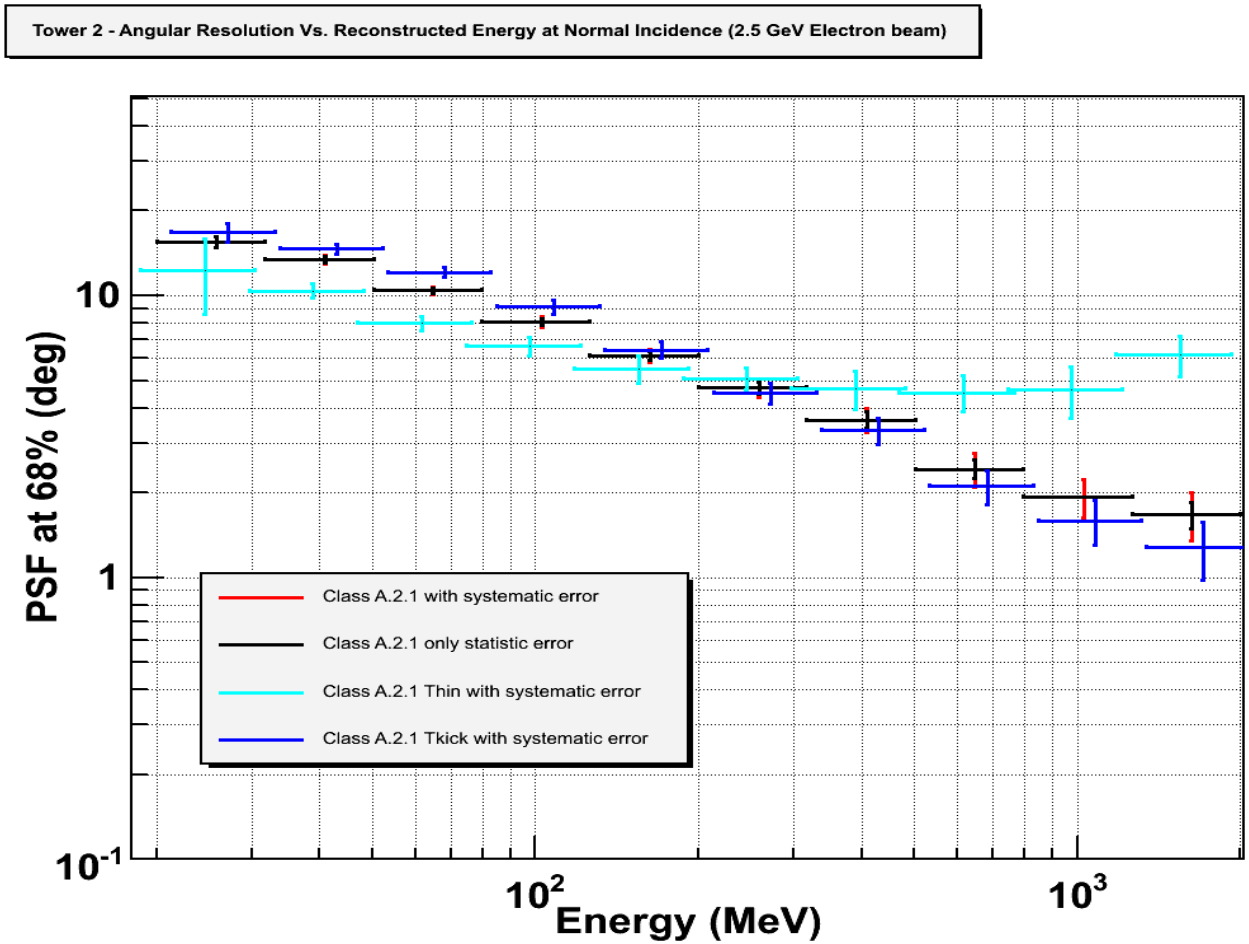
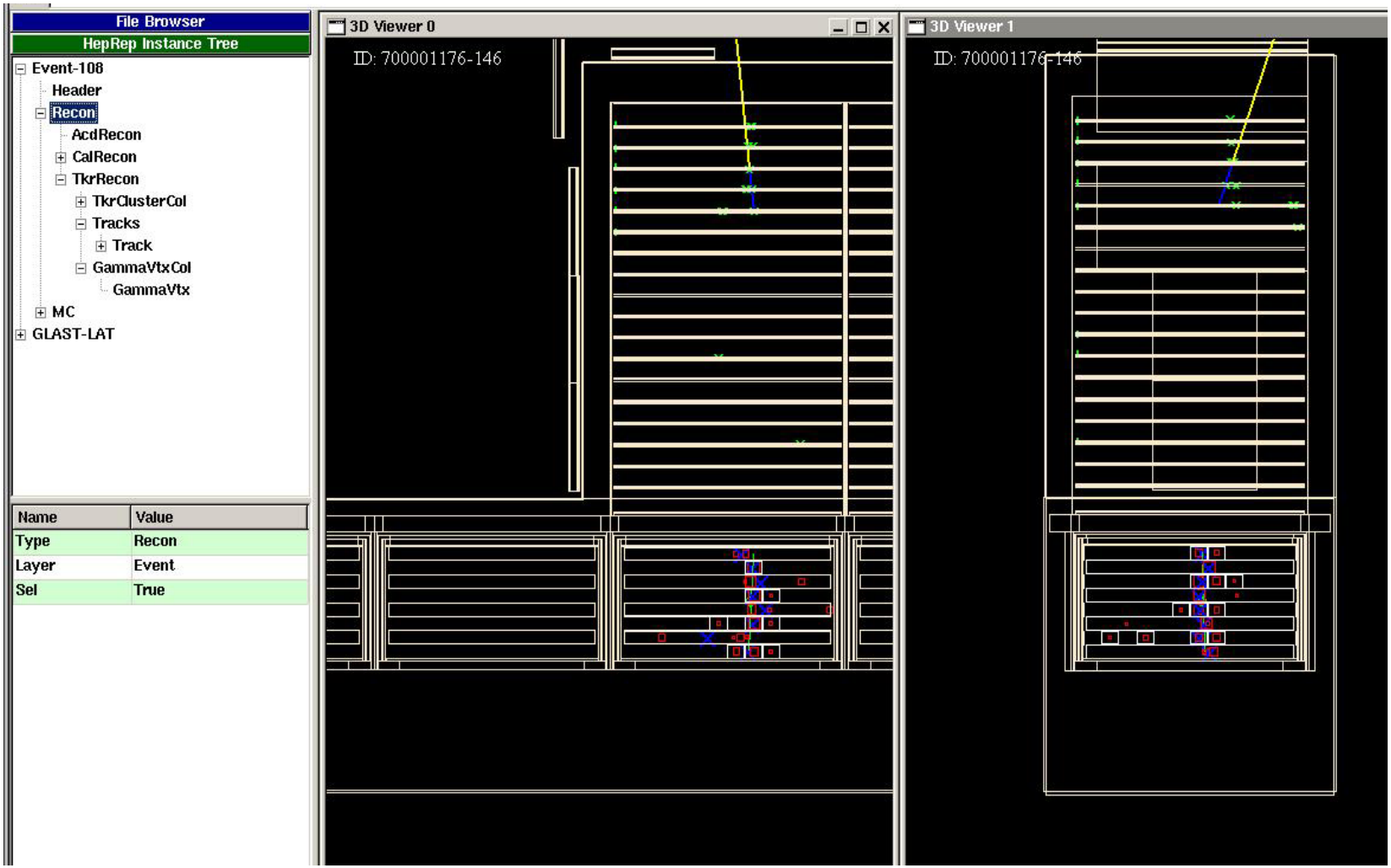
Problem

The angular resolution in thin planes increases with the energy



Event display …



Some events (Class A) show a short track in the TKR with a large energy deposition in the CAL

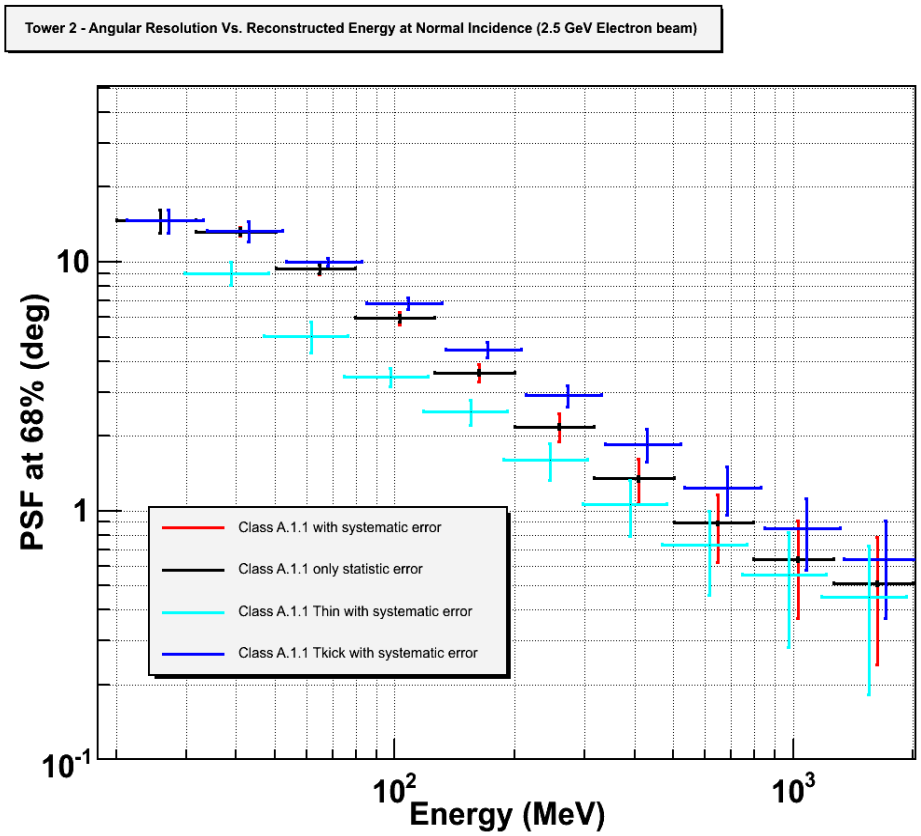
Cut optimization for Class A.1.x and A.2.x events

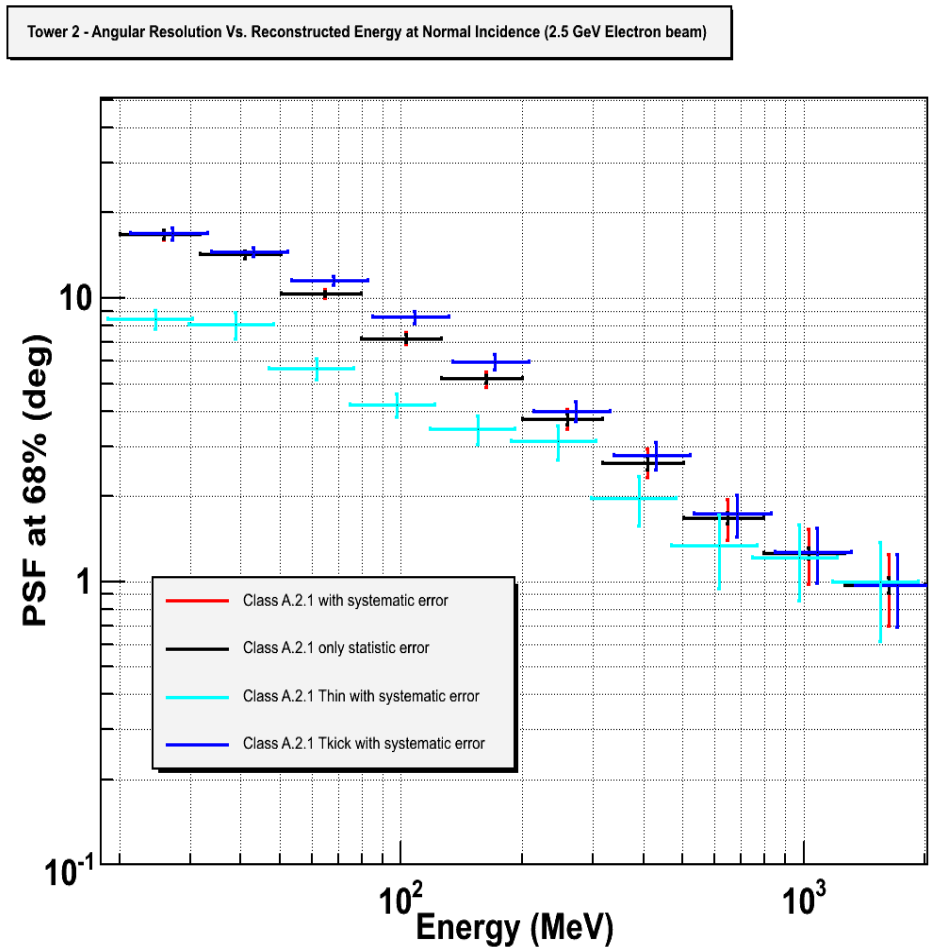
- Class A.1.x (single vertex and two tracks)
  - Tkr1LastLayer == 0 && Tkr2LastLayer == 0 && Tkr1FirstLayer > 1 && Tkr2FirstLayer > 1
- Class A.2.x (single vertex and one track)
  - Tkr1LastLayer == 0 && Tkr1FirstLayer > 1

Configurations

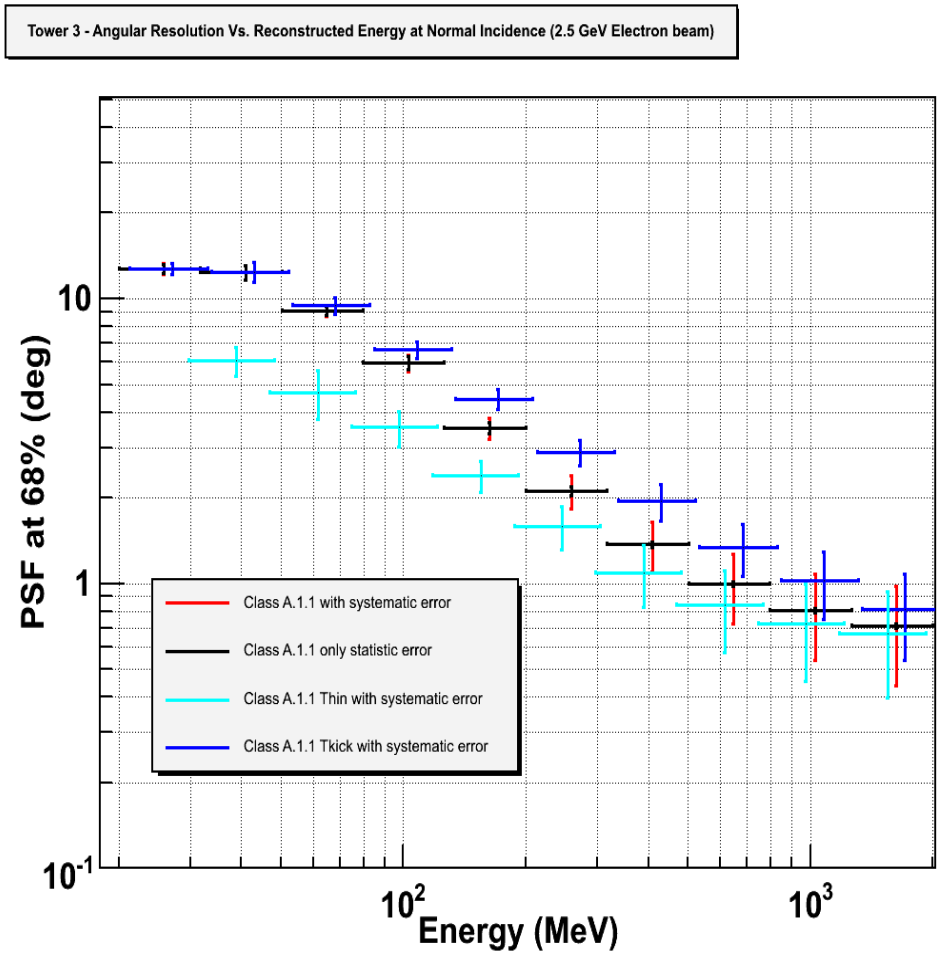
- **Normal incidence**
  - **Tower 2: all gamma runs (both full brems. and tagged) have been used at 0° with 2.5 GeV electron beam. The pion contamination has been rejected by requiring the X Vertex position in Tower 2 (VtxX < 350.)**
  - **Tower 3: all gamma runs (both full brems. and tagged) have been used at 0° with 2.5 GeV electron beam**
- **30°: all gamma runs (both full brems. and tagged) have been used at 30° with 2.5 GeV electron beam**
- **48°: all gamma runs (both full brems. and tagged) have been used at 50° with 2.5 GeV electron beam**
- **MC at normal incidence on Tower 3 with 2.5 GeV electron beam**

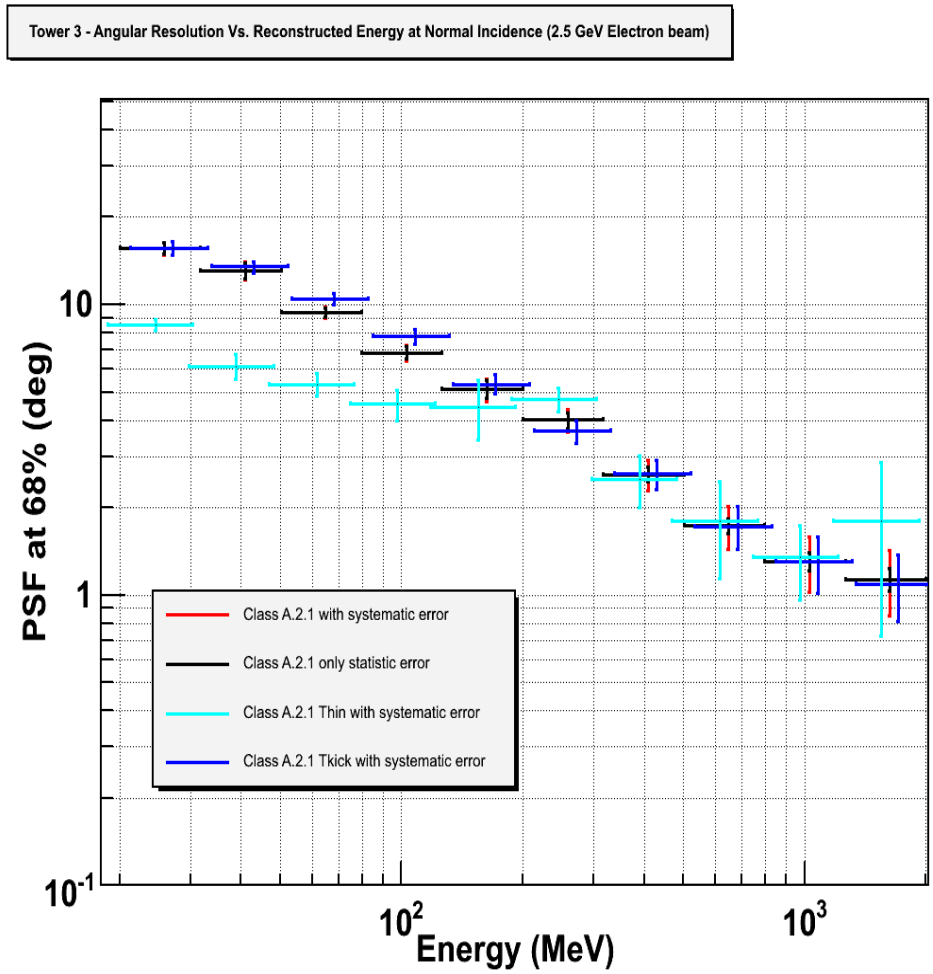
PSF at 68% - Tower 2 at 0 Deg



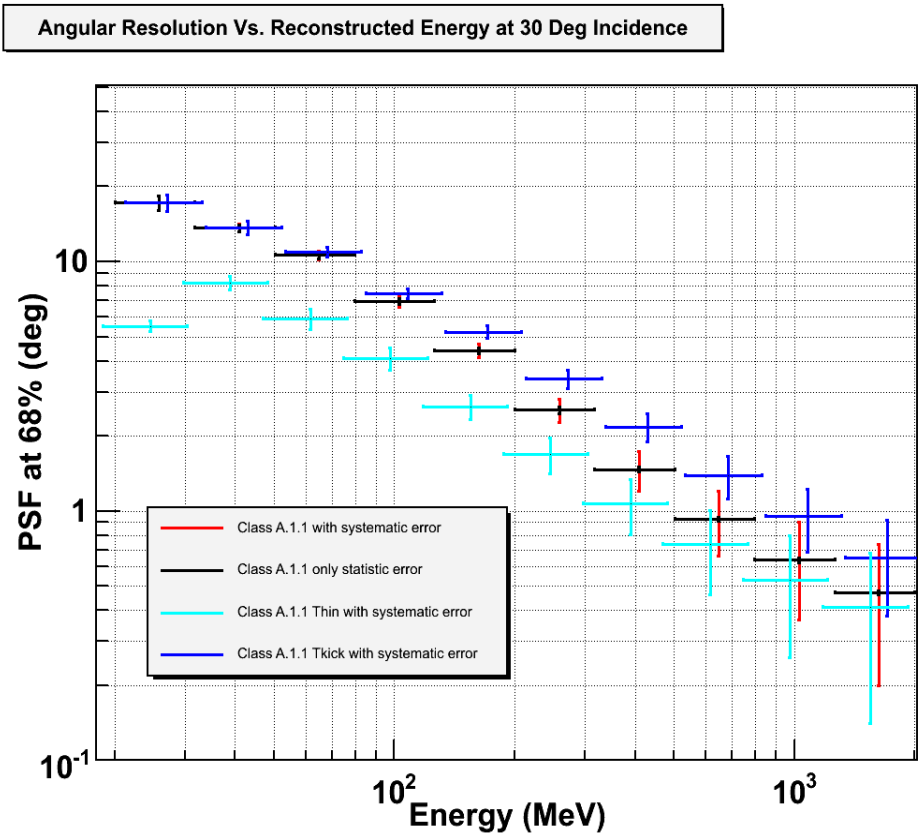


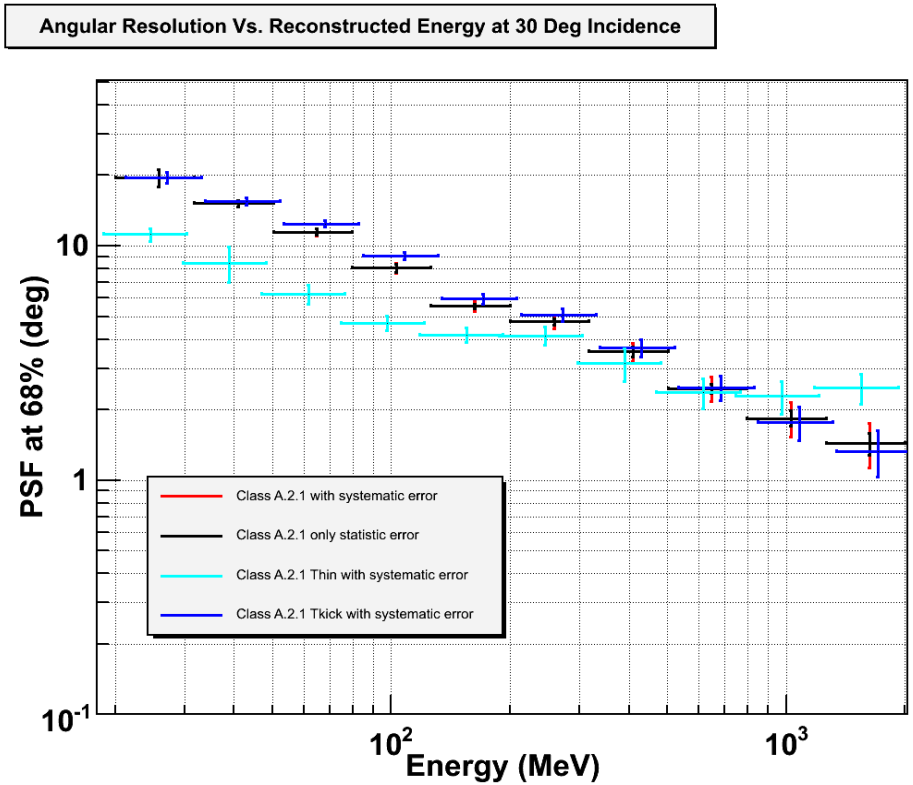
PSF at 68% - Tower 3 at 0 Deg



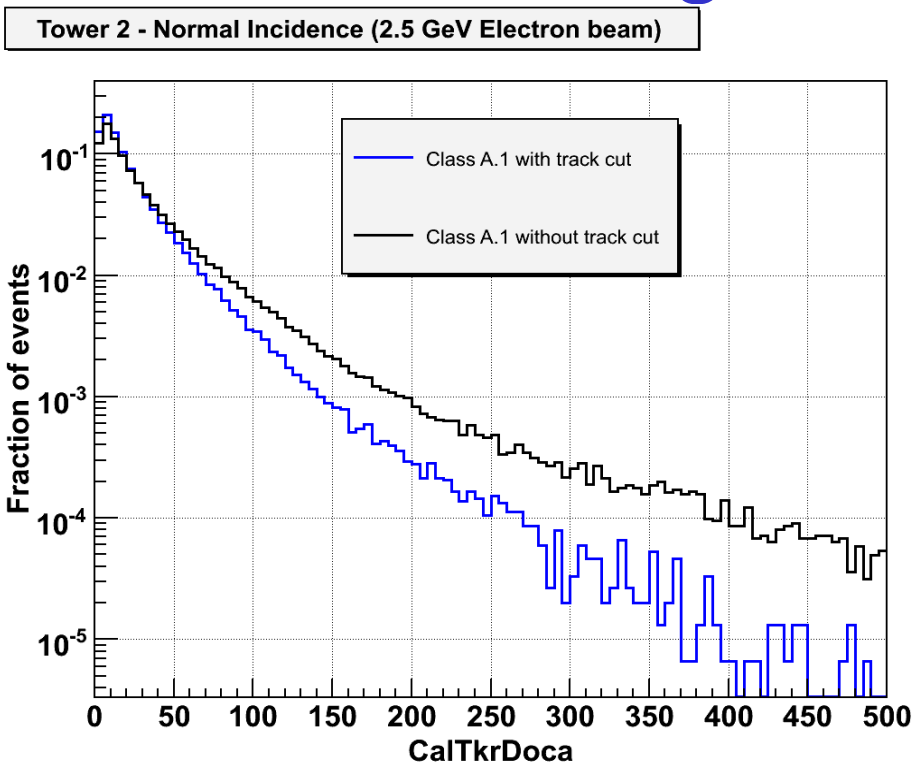


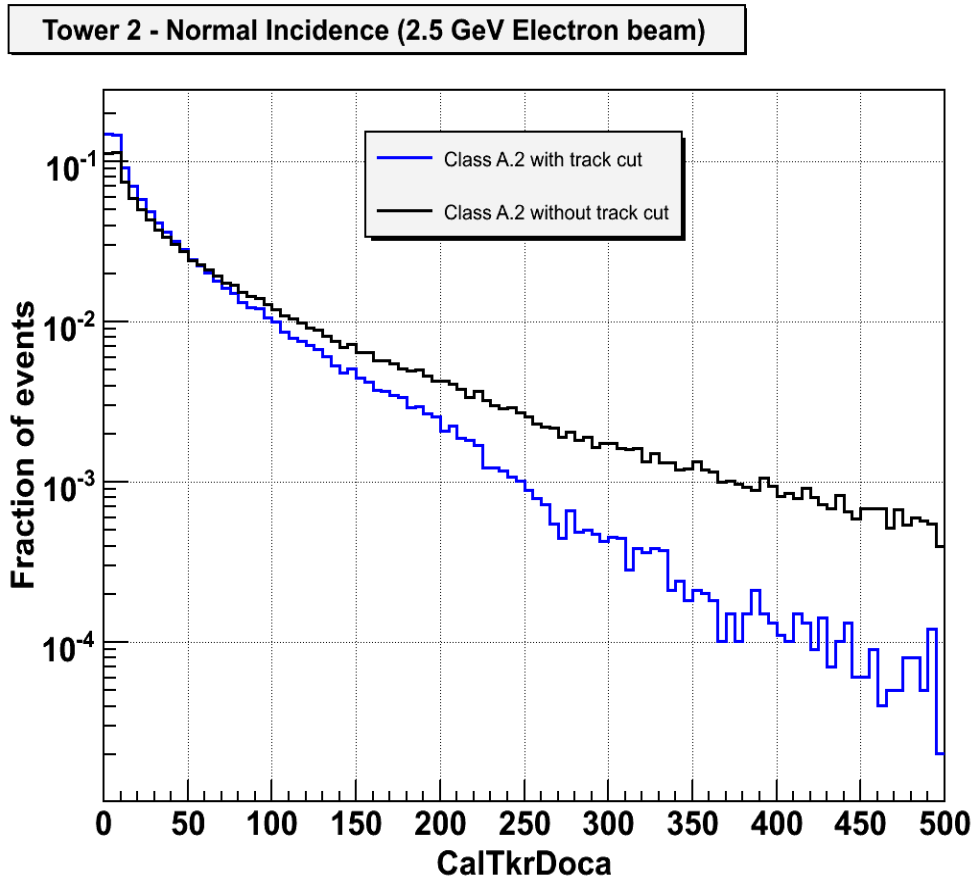
PSF at 68% - 30 Deg



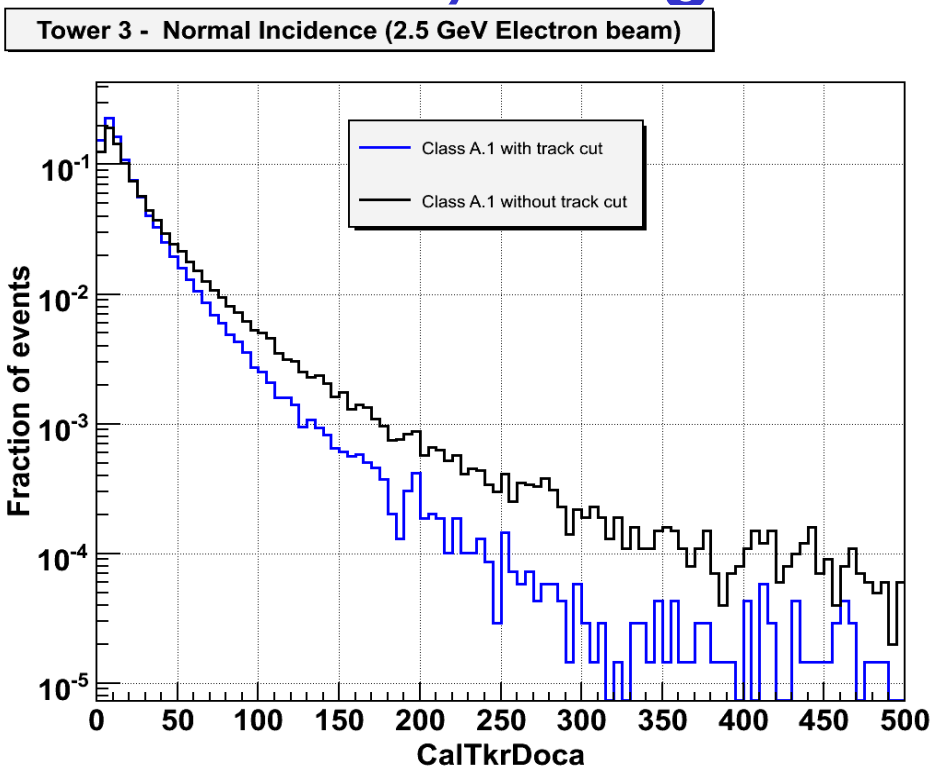


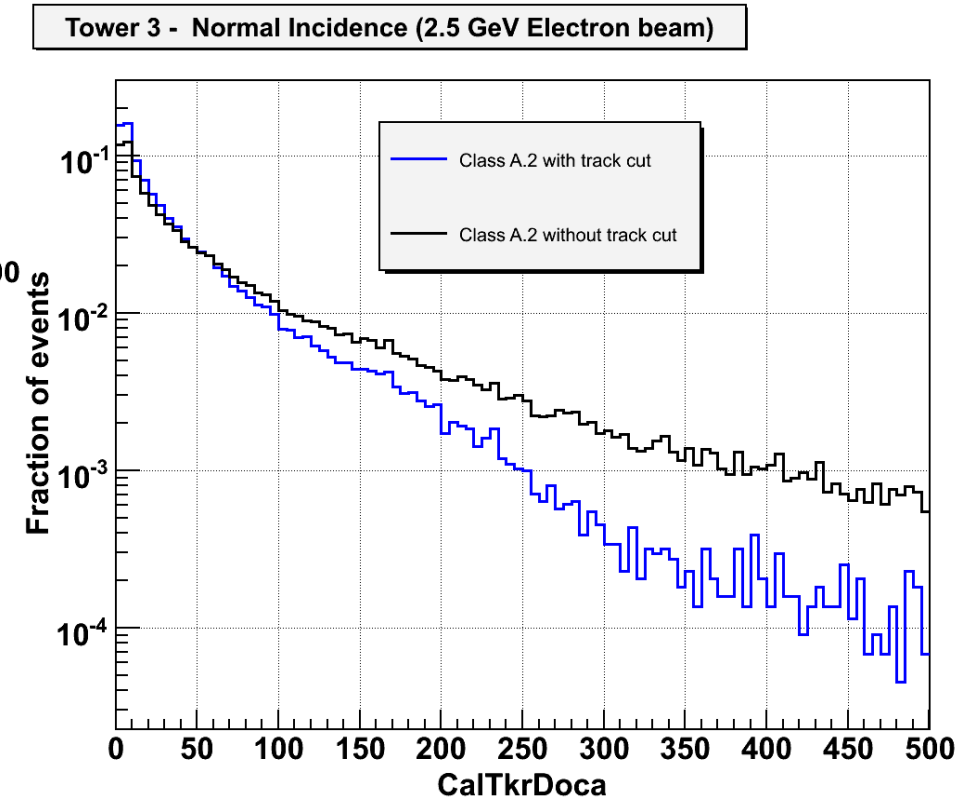
Tower 2, 0 deg - CalTkrDoca distribution





Tower 3, 0 deg - CalTkrDoca distribution





Conclusion

- It is hard to tag eventual double photons with one that converts in the TKR and the other in the Cal, since they are very close due to the small beam divergence at 2.5 GeV
- The crucial issues for this analysis are the tracking algorithm and the Cal energy response
  - It would be nice if the tracking people could check the algorithm
  - The final results have to be checked when the Cal calibration is fixed