

Energy calibration: quality cuts

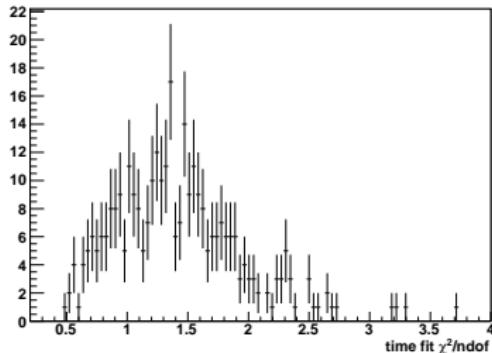
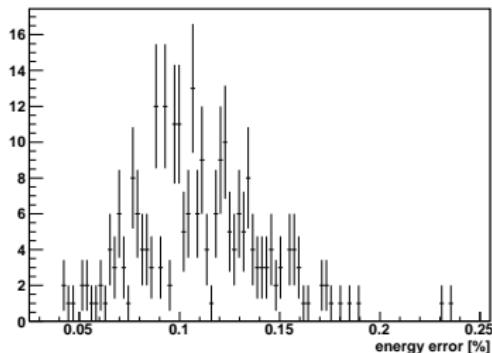
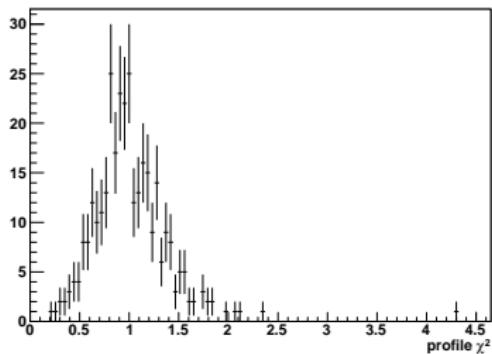
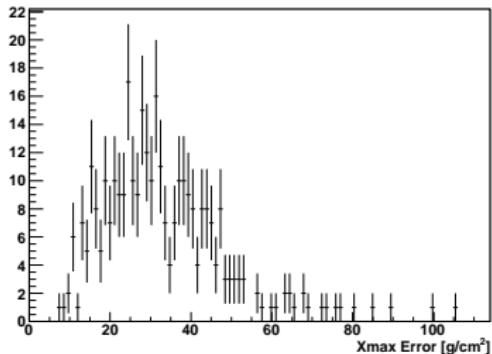
Ioana C. Mariş

November 7, 2011

Final cuts

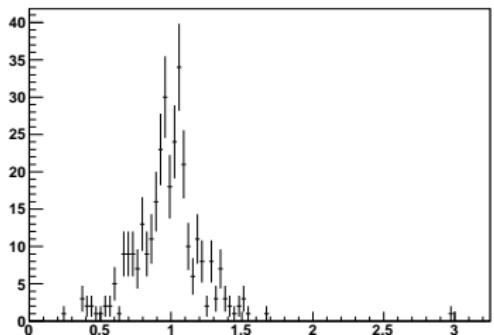
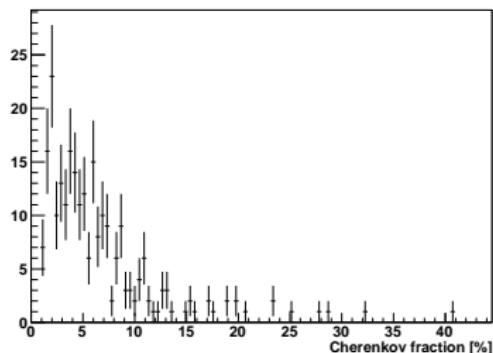
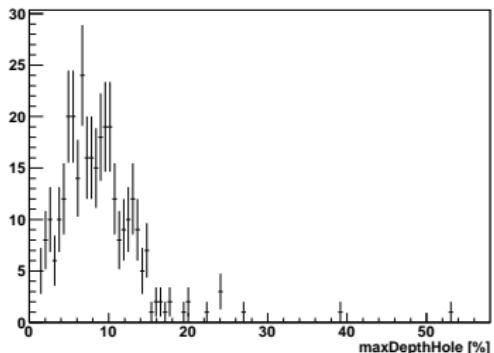
- hasMieDatabase
- skipSaturated
- maxVAOD 0.1
- !badPixels 1
- badFDPeriodRejection
- xMaxObsInExpectedFOV
- xmaxError 55
- energyError 0.2
- profileChi2 1.5
- timeFitChi2 2
- removed maxCfrac 50.
- maxDepthHole 15.
- profileChi2Ratio 1.5
- LidarCloudRemoval 25
- MinCloudDepthDistance params: -50 50
- MaxCloudThickness 100
- GAP2007005FidDist
- GAP2007005FidZen

Variables distributions



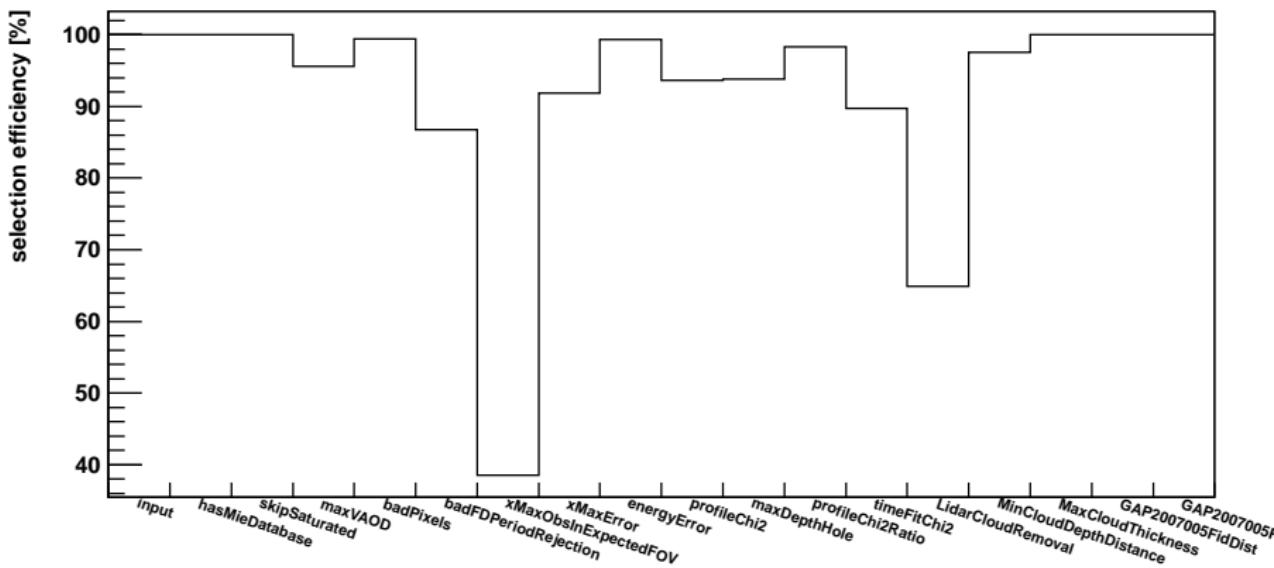
- xmaxError 55
- energyError 0.2
- profileChi2 1.5
- timeFitChi2 2

Variables distributions



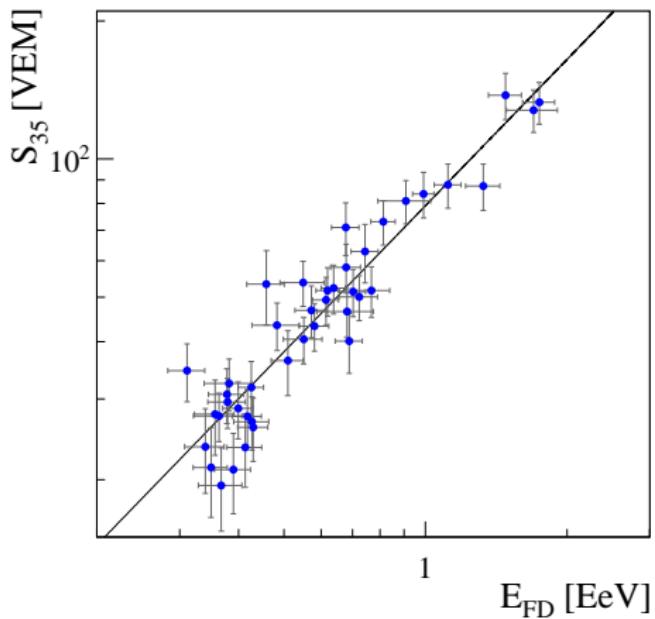
- removed `maxCfrac` 50.
- `maxDepthHole` 15.
- `profileChi2Ratio` 1.5

Selection efficiency



- start: 1669 → finish: 238
- after FOV cuts: 42 events

Energy calibration



- $A = 0.0161 \pm 0.003 \text{ EeV}$
- $B = 0.945 \pm 0.048$
- correlation -0.992
- changing to fitting $S_{35}/50$.
correlation: -0.003 \Rightarrow same results

Energy spectrum

