CTA Analysis Status

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Current project

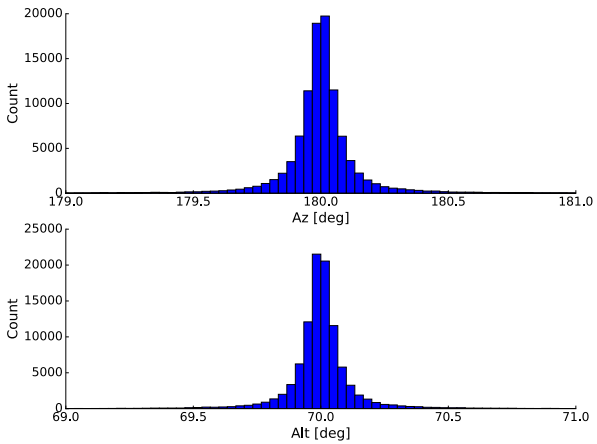
CTA reconstruction

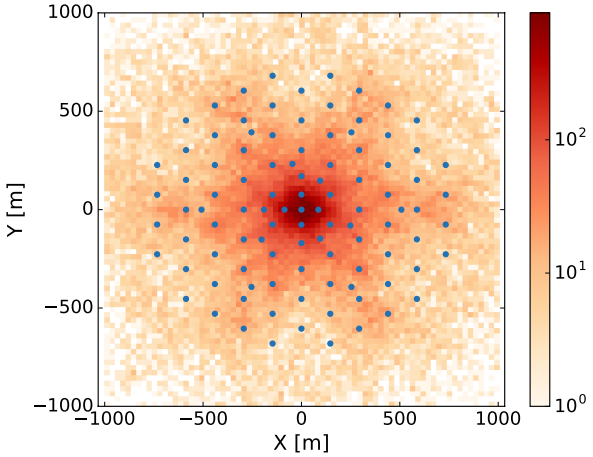
- Hillas (Thomas)
  - Checks
  - Energy reconstruction (Tables)
- Model++ (H.E.S.S. like)
  - Likelihood (Florian)
  - Format, model, conversion (Pierre)
- Model++ (Shazam like) Pierre
- Compression (Pierre)

Python, Jean, Pierre

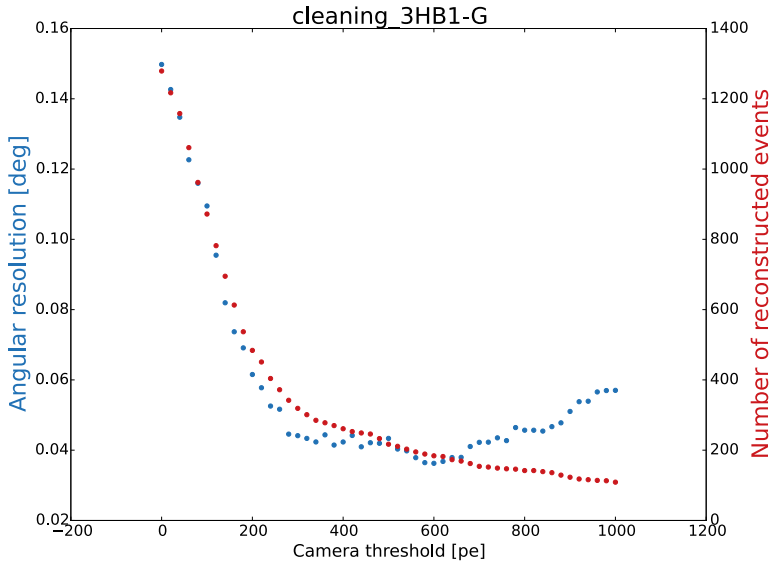
- ctapipe collaboration framework
- ASTERICS
- Reduction, sum
- Hillas parameters

- Plots in python library to assess the physics





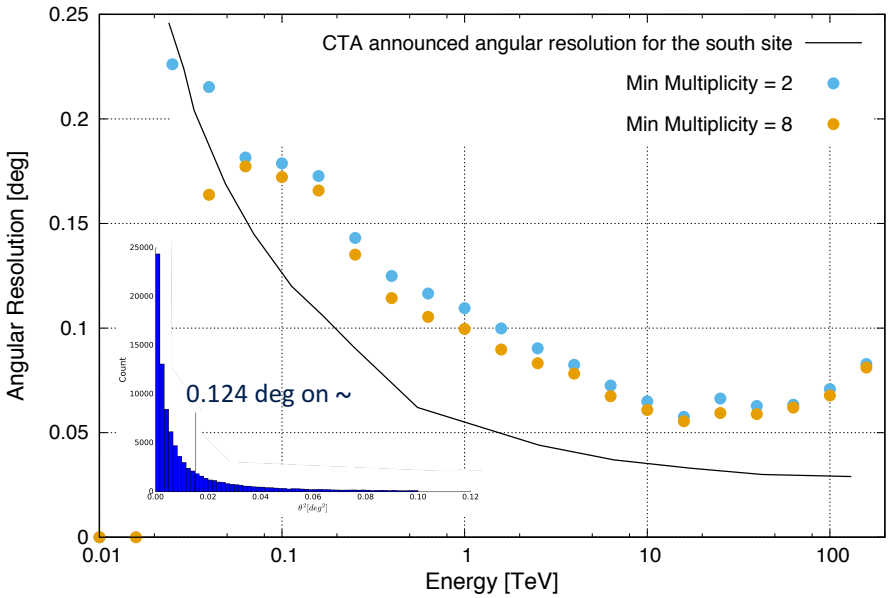
- Cleaning study = test reconstruction results (e.g. angular resolution) as a function of cleaning to find the ”best” one

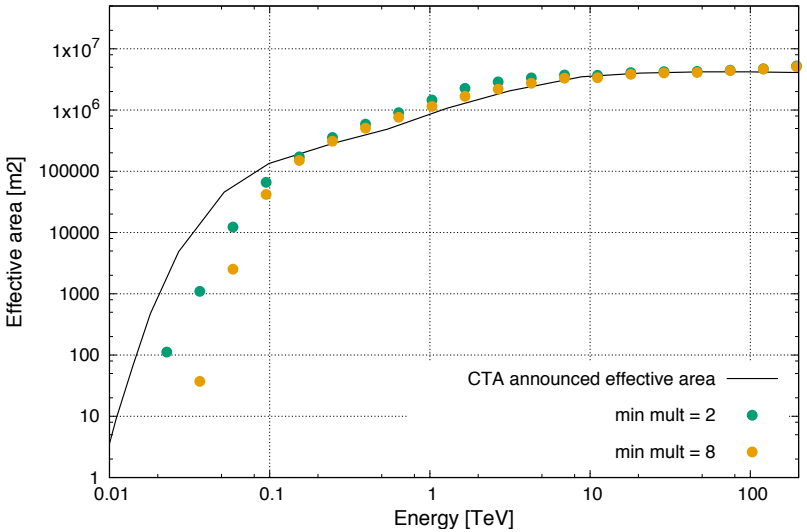


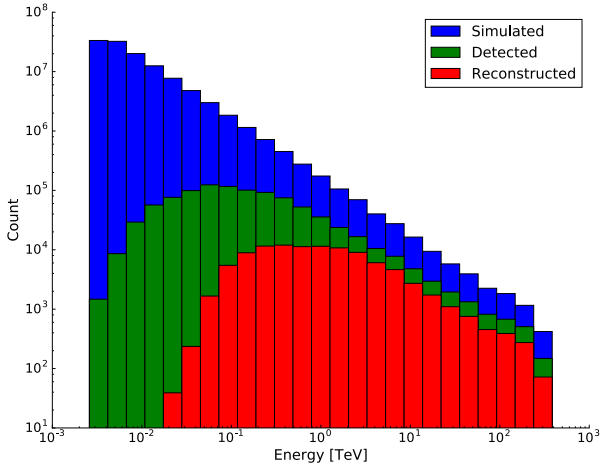
Exemple: SST-GCT
Cut: 8-5

- At the end it depends on your criteria to define ”best” (trade off between angular resolution, sensitivity…)
- Hope to achieve much better cleaning with more performant techniques

- Physics results today



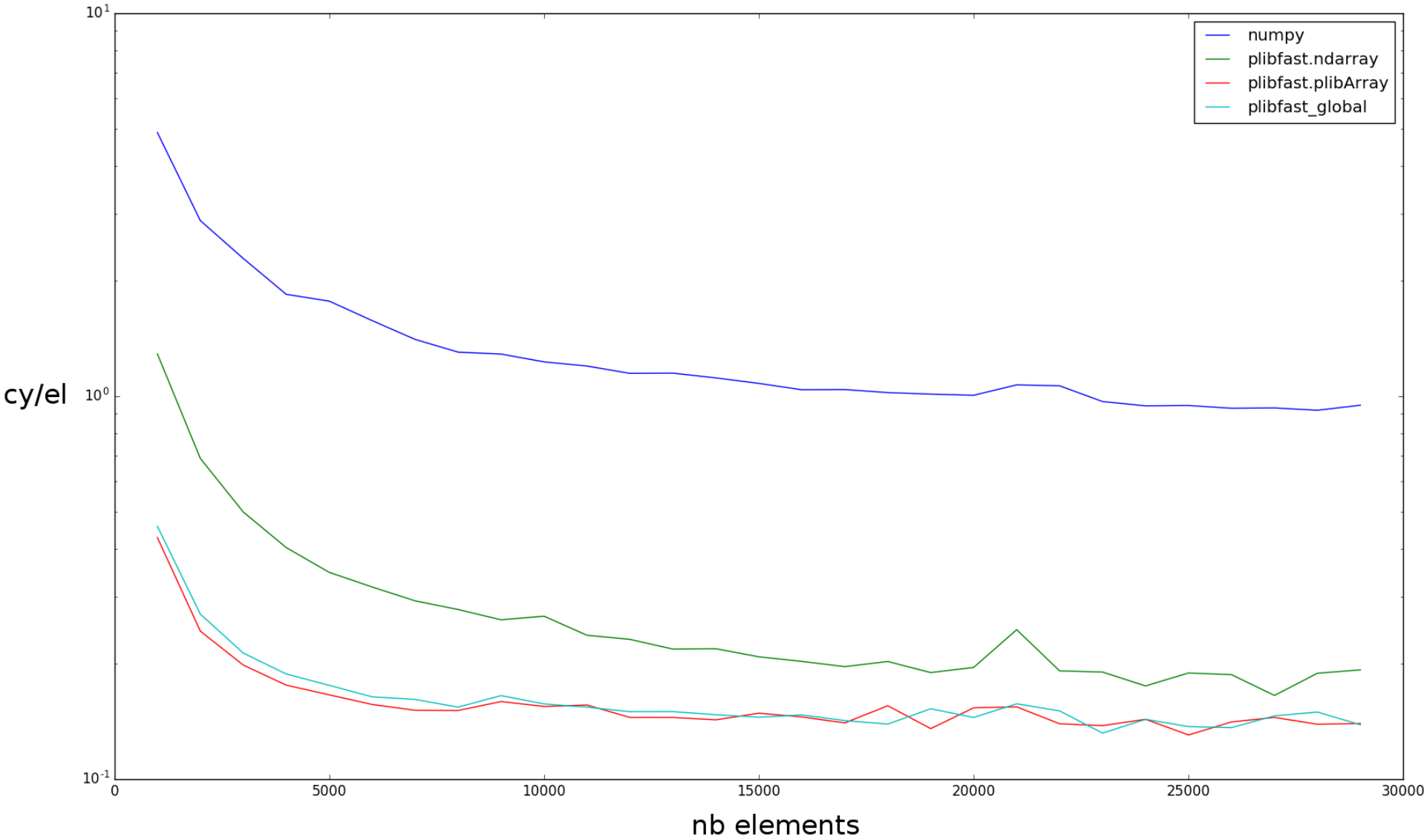




596 files, gamma 20deg 180deg
Layout 3HB1-NG
> 1e8 events (> 1e5 reconstructed)

- Energy reconstruction and discrimination under development
  - Tables generated and handled by Python class
  - Next: analyze those tables to find the best set of parameters (different from HESS)

Python functions
Reduction AVX2



Python functions
Hillas AVX2