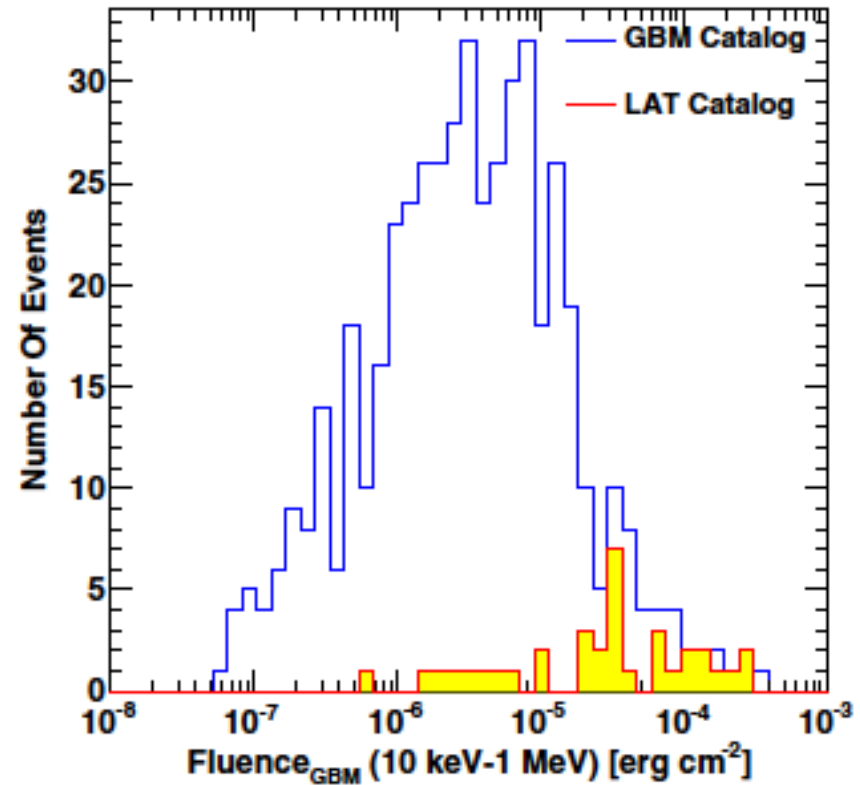


ASTROGAM and GRBs

S.Mereghetti

10-12-2014

- Only the highest fluence GRBs detected by LAT (~1 /month)
- Delayed onset and extended emission at $E > 100$ MeV
- ... and below 100 MeV ?



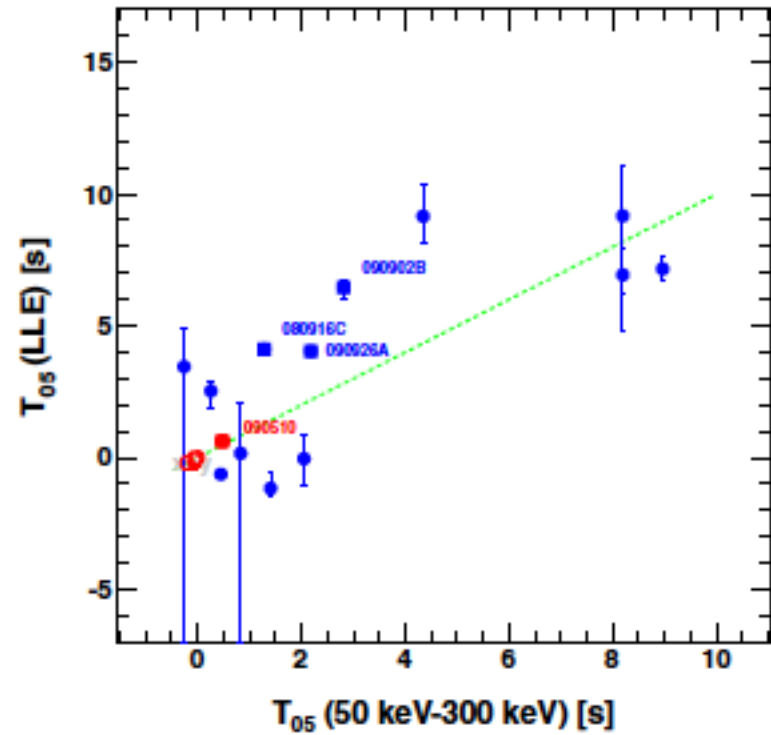
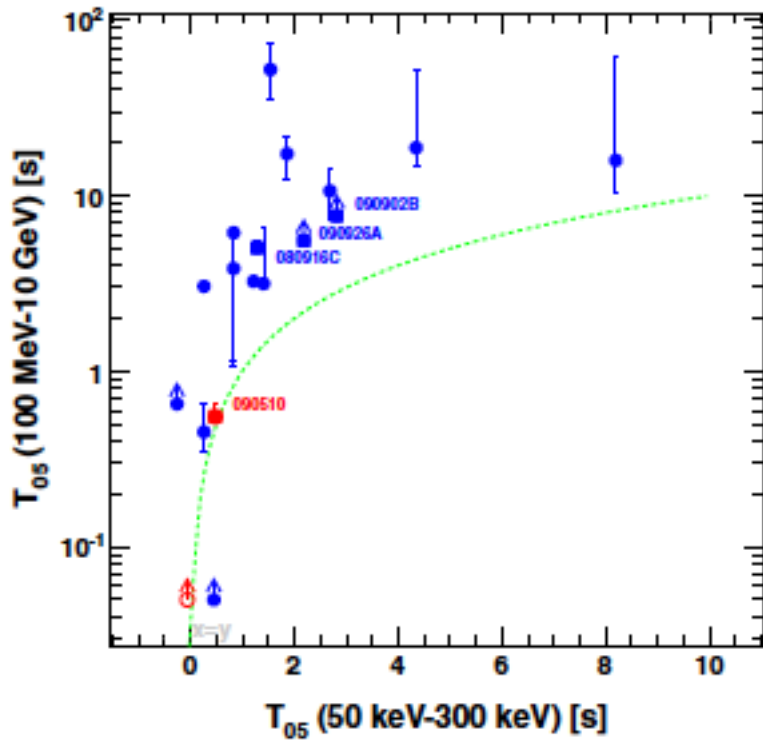
ASTROGAM and GRBs

Strong points

- Several GRB/yr in large FOV of ASTROGAM
(→ spectroscopy, polarimetry)
- Very interesting energy range bridging the “classical GRB range” (Band function) with the >100 MeV range where extra components are required

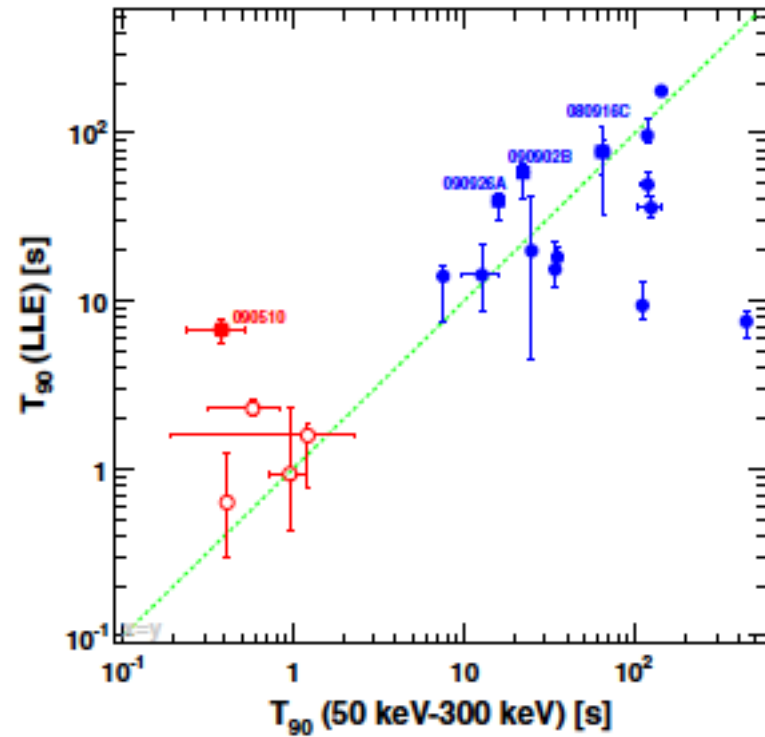
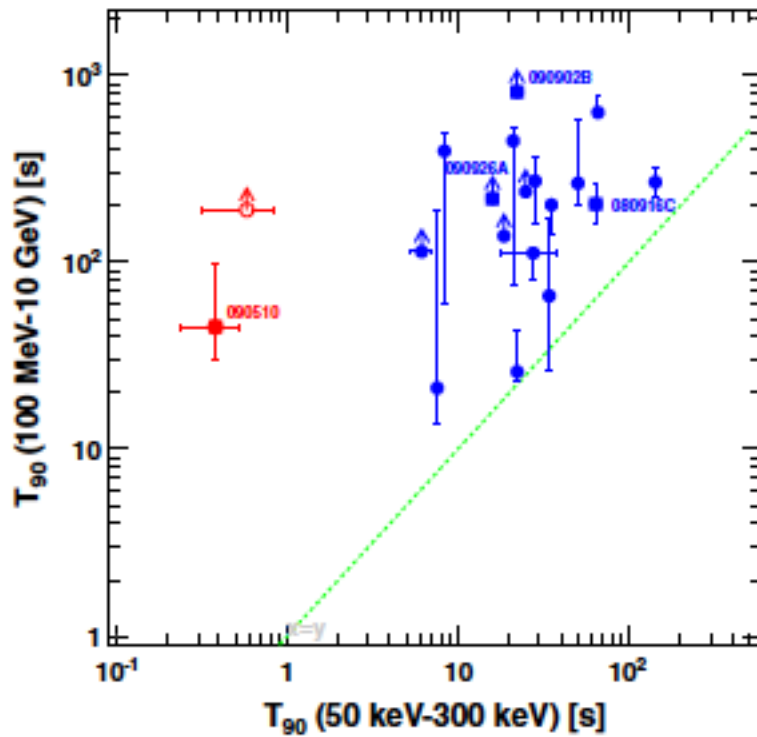
GRB onset times

Ackerman et al 2013

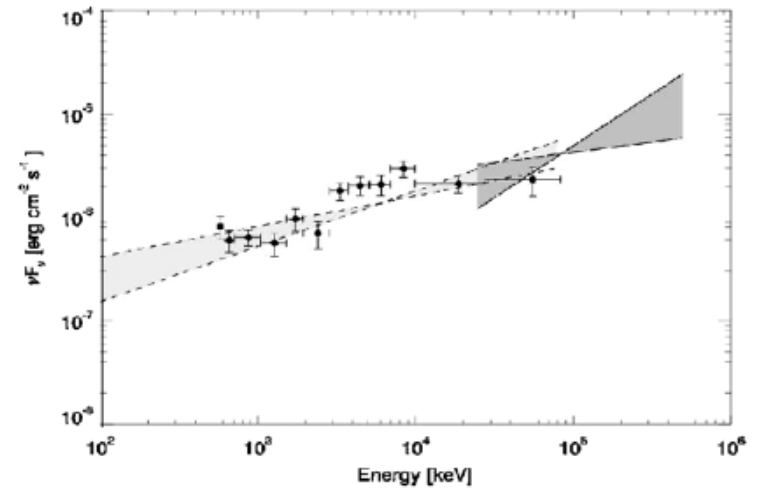
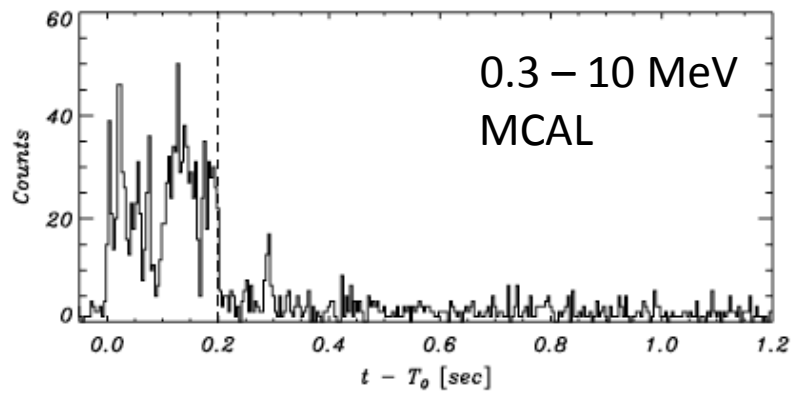
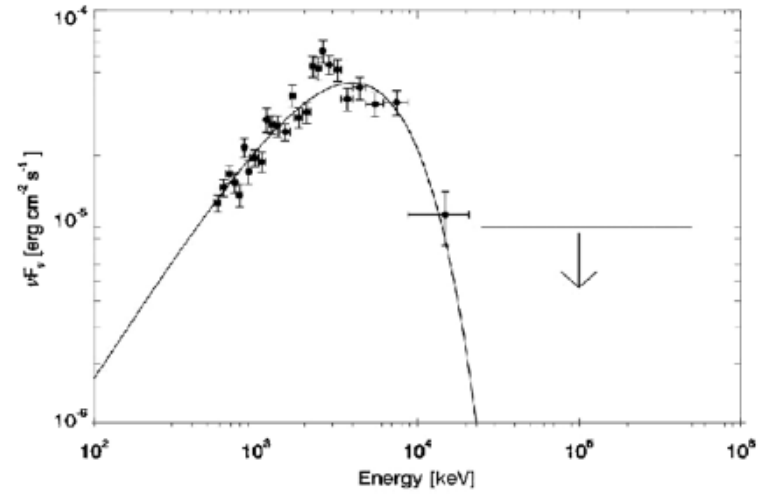
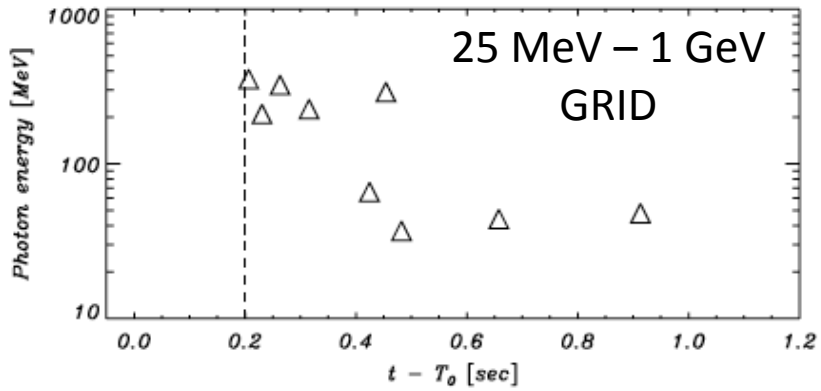


GRB durations

Ackerman et al 2013



GRB 090510 – AGILE - Giuliani etal. 2010



ASTROGAM and GRBs

Strong points

- Several GRB/yr in large FOV of ASTROGAM (→ spectroscopy, polarimetry)
- Very interesting energy range bridging the “classical GRB range” (Band function) with the >100 MeV range where extra components are required
- Calorimeter as independent detector (GRBs, SGRs, TGFs, ...)

ASTROGAM and GRBs caveats / requirements

- only a few GRBs will have trigger/localization from other satellites
- Good spectral modeling of Tracker data requires also data in hard X-ray range
- important to have good calibration of Calorimeter as a function of direction

ASTROGAM and GRBs

“Golden science”

- Polarimetry
- Only wide FOV γ -ray satellite in the era of GW / neutrino astronomy