Fermi observations of Terrestrial Gamma-ray Flashies (TGFs)

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Others before launch: Giselher Lichti, Fred Berry, Ron AI English, Fred Kroeger, …
Briggs, et al., JGR, 2010
Foley, et al., in preparation
Correlating TGFs in gamma-rays (GBM) with lightning via radio (WWLLN)

When a match is found:

Tens of μs and ≲ 300 km
WWLLN lightning locations (Connaughton, et al., JGR, 2010)
Cummer et al., GRL, 2011
Magenta: simulation by J. Dwyer
Currently 236 (triggered) TGFs

The TGF rate since the Flight Software was improved (2009 Nov 10): one per 4.0 days.

But as Oliver Twist said, “Please sir, I want some more.”
Currently ~700 TGFs.

“Please sir, I want some more.”

Fermi and GBM have permission to produce GBM TTE data all the time! We predict ≈800 TGFs per year.

http://gammaray.nsstc.nasa.gov/publications/tgf_journal.html