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# What Substorm Energetic Particle Injections Tell Us Or Don't Tell us about Substorm triggers

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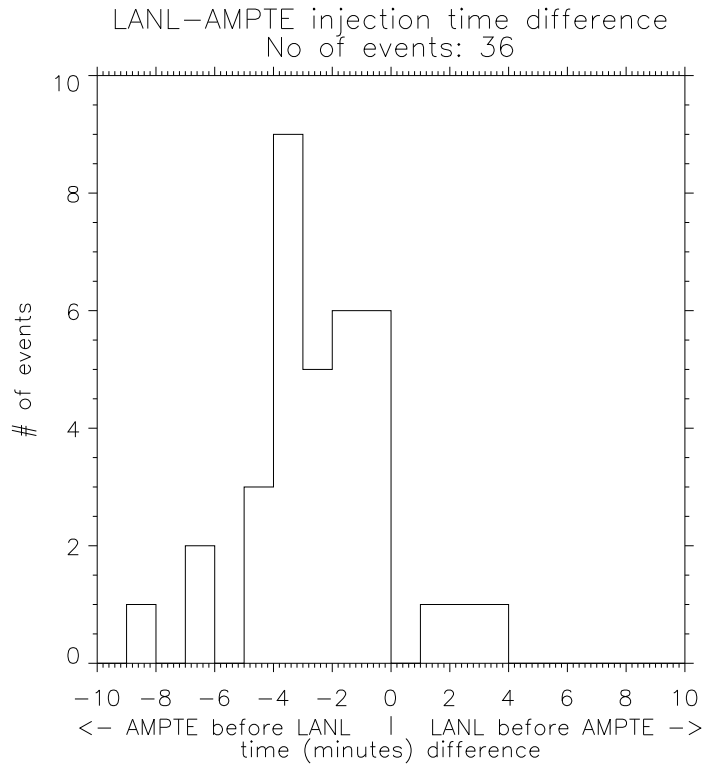
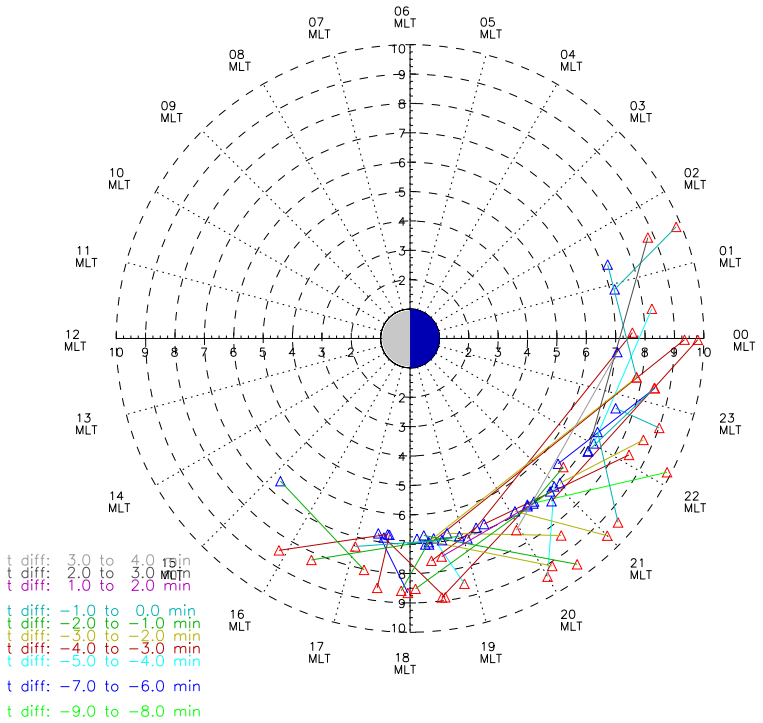
# LANL/AMPTE study

- The AMPTE CCE is one of the three satellites in the AMPTE mission:
  - August 1984 - January 1989
  - 8.8 $R_e$ apogee
  - $4.8^o$ inclination
  - 15.6 hours orbit
- Instrument used:
  - MEPA energetic particle instrument
  - Ions 34 – 285 keV
- AMPTE CCE covers the region outside geostationary up to about L=9.5, depending on magnetic latitude.
- Initial AMPTE injections selection by Kazue Takahashi (APL) using an automated method.
- Selection at LANL of all the geosynchronous data and common dispersionless injections.

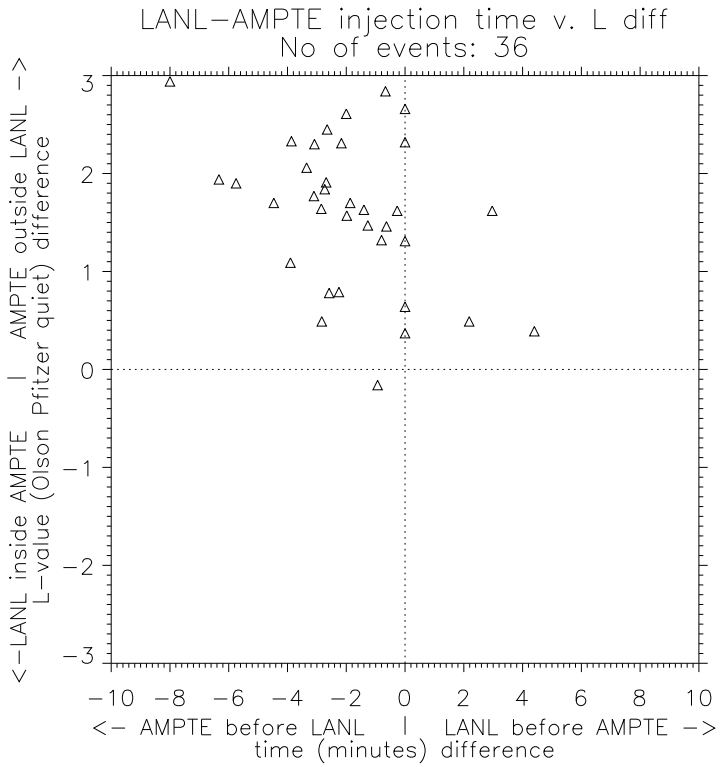
# LANL/AMPTE study Results

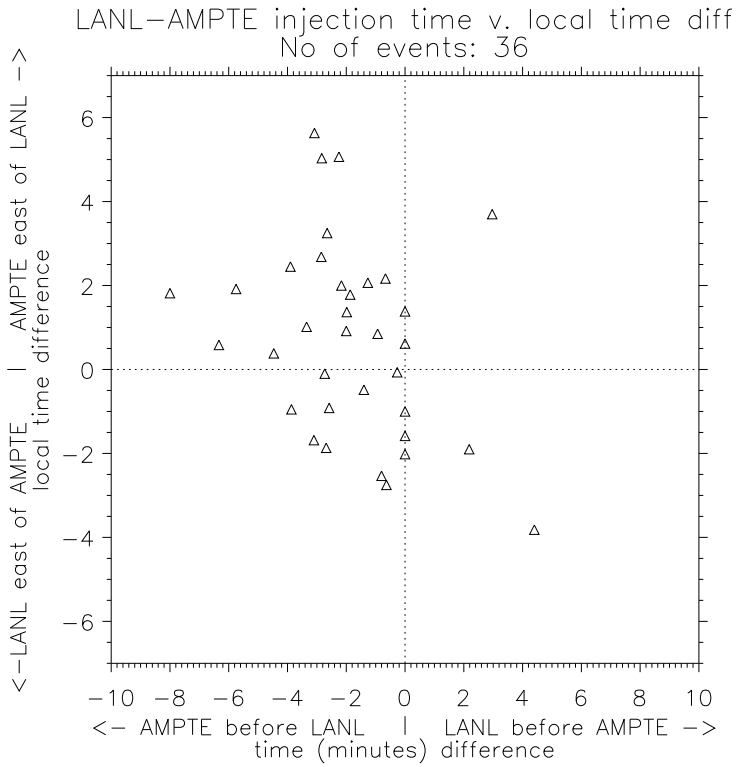



No of events: 36



# LANL/AMPTE study
# Results



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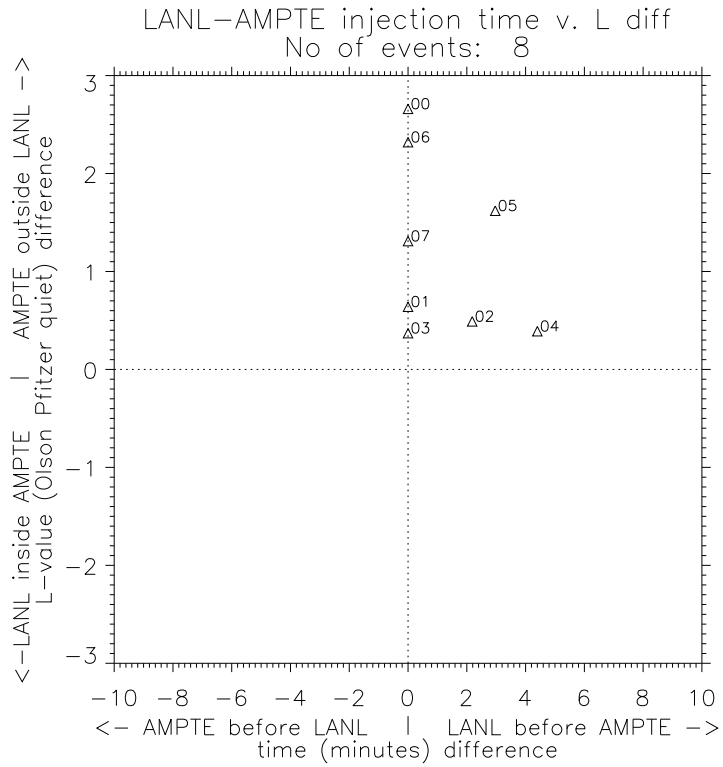


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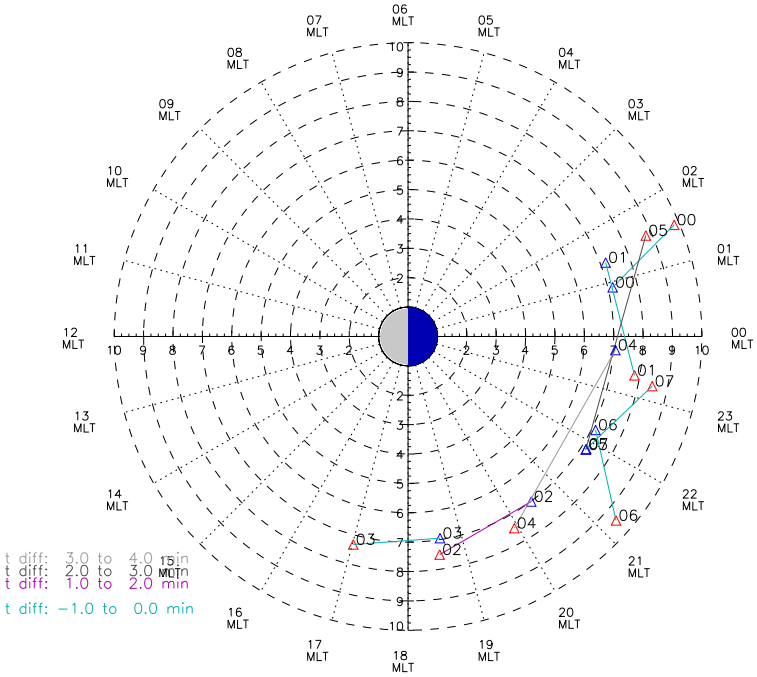
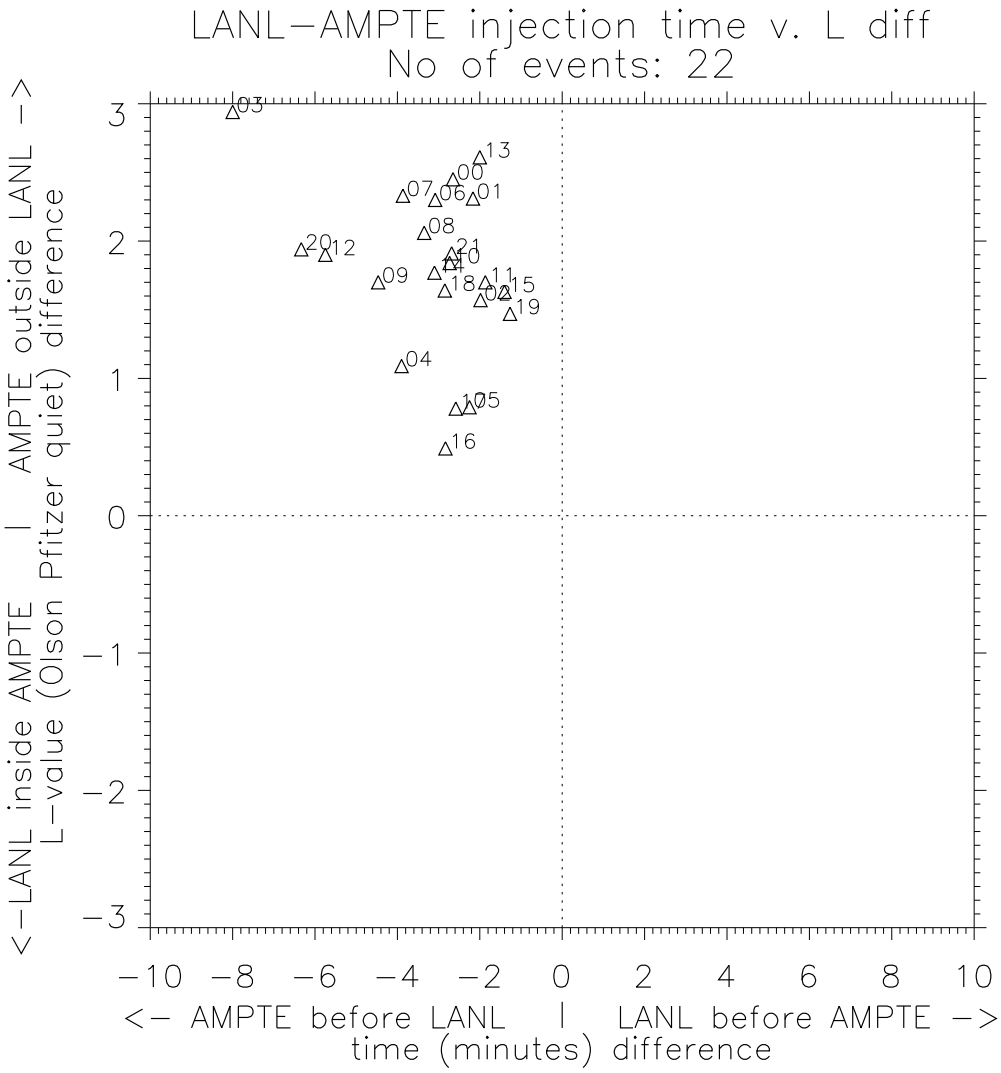
# LANL/AMPTE study
# Results