

Geosynchronous Environment for Identification of Satellite Hit Anomalies (GEISHA)

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Introduction

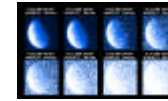
- In orbit anomalies relevant to ionizing particles

- ◆ Internal charging resulting in electrostatic discharges

- ◆ Surface charging resulting in electrostatic discharges

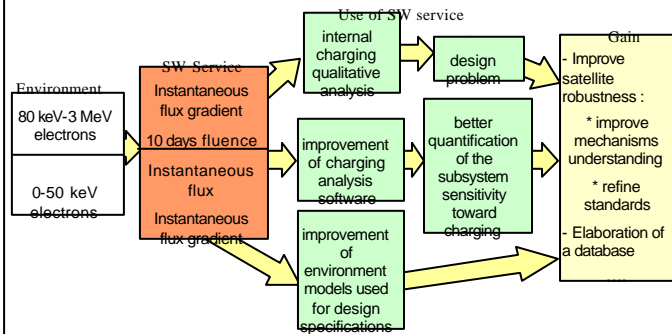
- ◆ Single event effects

- ◆ Solar cell degradation due to displacement damage



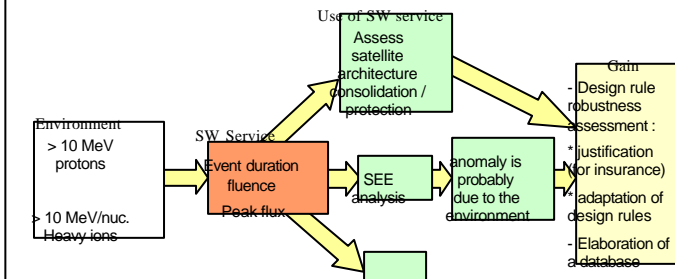
User needs

Charging



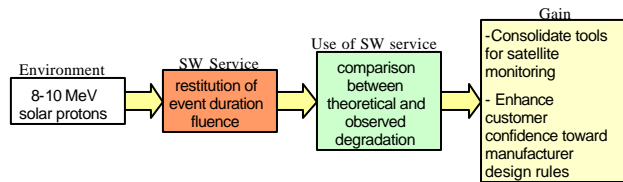
User needs

Single event effect

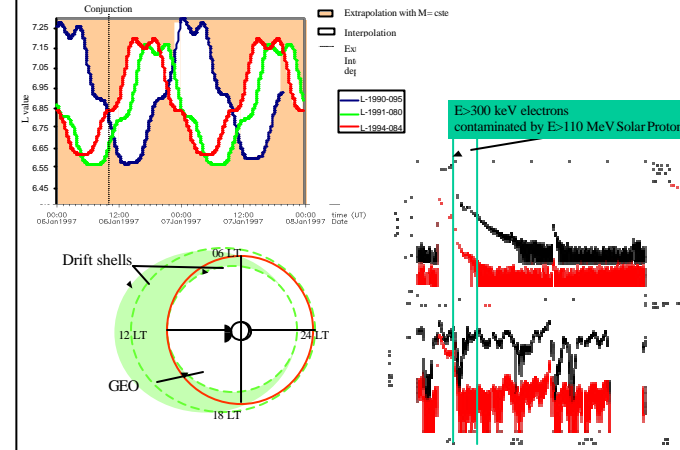


User needs

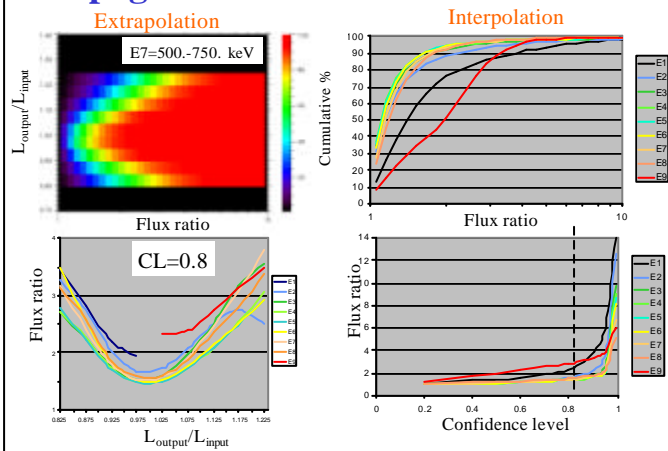
Solar cell degradation



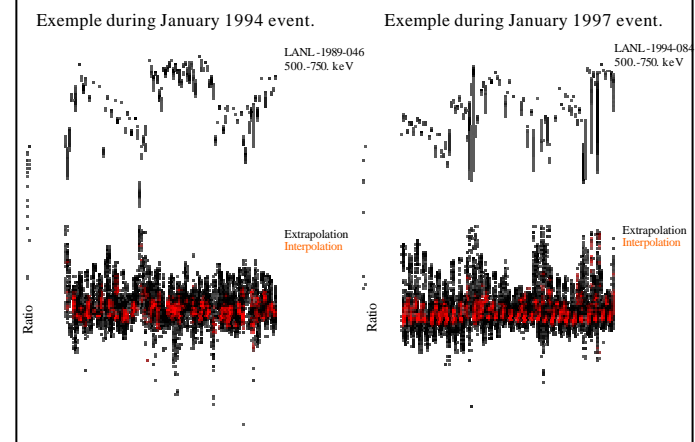
Propagation of electron measurements



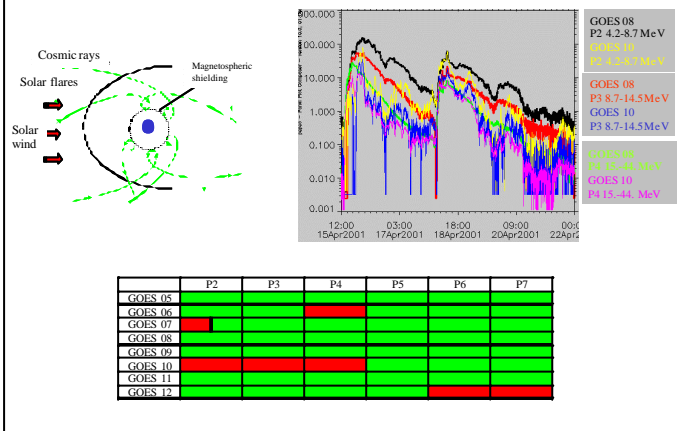
Propagation of electron measurements



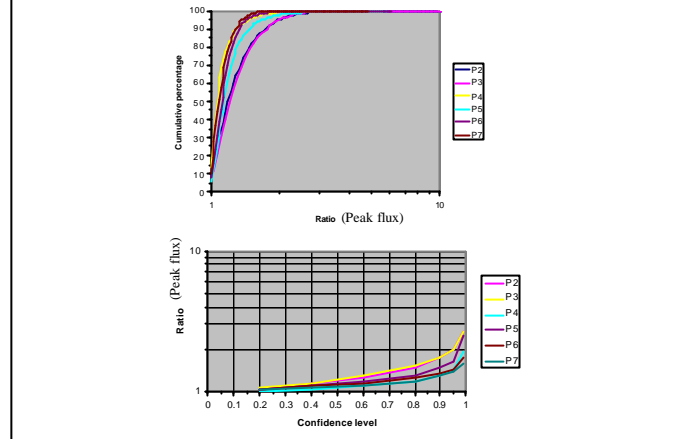
Propagation of electron measurements



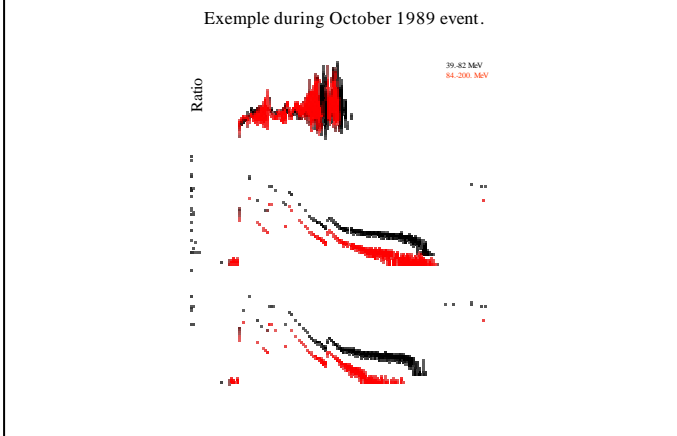
Propagation of proton measurements



Propagation of proton measurements



Propagation of proton measurements



Conclusions

- User needs are now better specified
 - Effect to asset
 - Parameter to extract from environment
 - Gain
- Confidence in the SW service has been investigated
 - Data filtering (Contamination, burst, gain change, ...)
 - Error bars versus measurement number
 - Maximum errors during strong day side compression
- Next step
 - Prototyping
 - Evaluating