

## **GEOSHAFT - A Pilot Space Weather Service**

Simon Clucas, Dave Rodgers, Karen Hunter

Space Department  
QinetiQ  
Farnborough UK

Geostationary (GEO) satellites continue to suffer from operational anomalies caused by space weather. Current evidence points to internal charging being the cause of the major fraction of GEO environment-induced anomalies. GEO satellite operators thus require improved, accessible information on orbital charging conditions so that fast, accurate anomaly diagnosis can be carried out, and hazard warnings ahead of time so that risk-reduction activities can be considered. Currently these needs are not satisfied from existing resources. QinetiQ is developing a service which will monitor and predict the hazard from internal charging to satellites in geostationary orbit. The service is web-based and will feature real-time calculations and displays of running averages of electron flux, charging currents for a set of shielding levels, and charging levels for a set of typical materials. It will also produce short-term forecasts of hazardous conditions and provide alerts warnings by email, fax, and SMS.