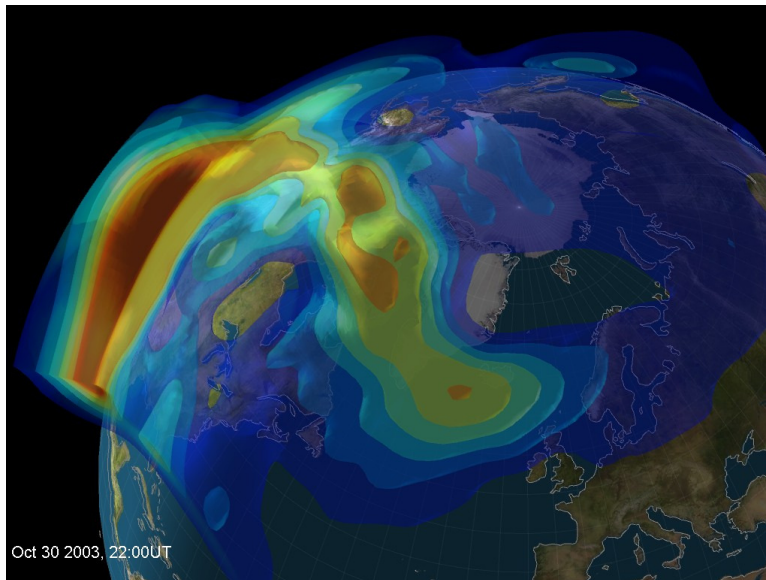


TOPCAT – Topside Ionosphere Computer Assisted Tomography

TOPCAT will measure the ionosphere and plasmasphere: the regions of space just beyond the Earth's atmosphere. This will help GPS users to monitor and subsequently react to variable space weather conditions that adversely affect the Global Positioning System (GPS) and its applications (e.g. satellite navigation, telecommunications).

The payload will consist of a specialised dual-frequency GPS receiver that is suitable for operation in the space environment. It will be developed at the University of Bath by first year PhD student Talini Pinto Jayawardena – a Bath Space Science and Technology MEng graduate – supported by Bath staff members Cathryn Mitchell, Robert Watson and Julian Rose and externally by Chronos Technology, RAL and MSSL. It is expected to be completed by June 2011.



Map of the ionosphere during a Space-Weather storm.