

Cluster AAR Campaign Summary Plots

A. N. Fazakerley¹, A. P. Walsh¹, K. J. Garza¹, I. Christopher², S. S. Sadeghi³, P. A. Lindquist³, B. Mihaljicic¹, C. Forsyth¹, J. S. Pickett², G. Marklund³, E. A. Lucek⁴, I. Dandouras^{5,6}

1. UCL Mullard Space Science Laboratory, Holmbury St. Mary, Surrey, UK

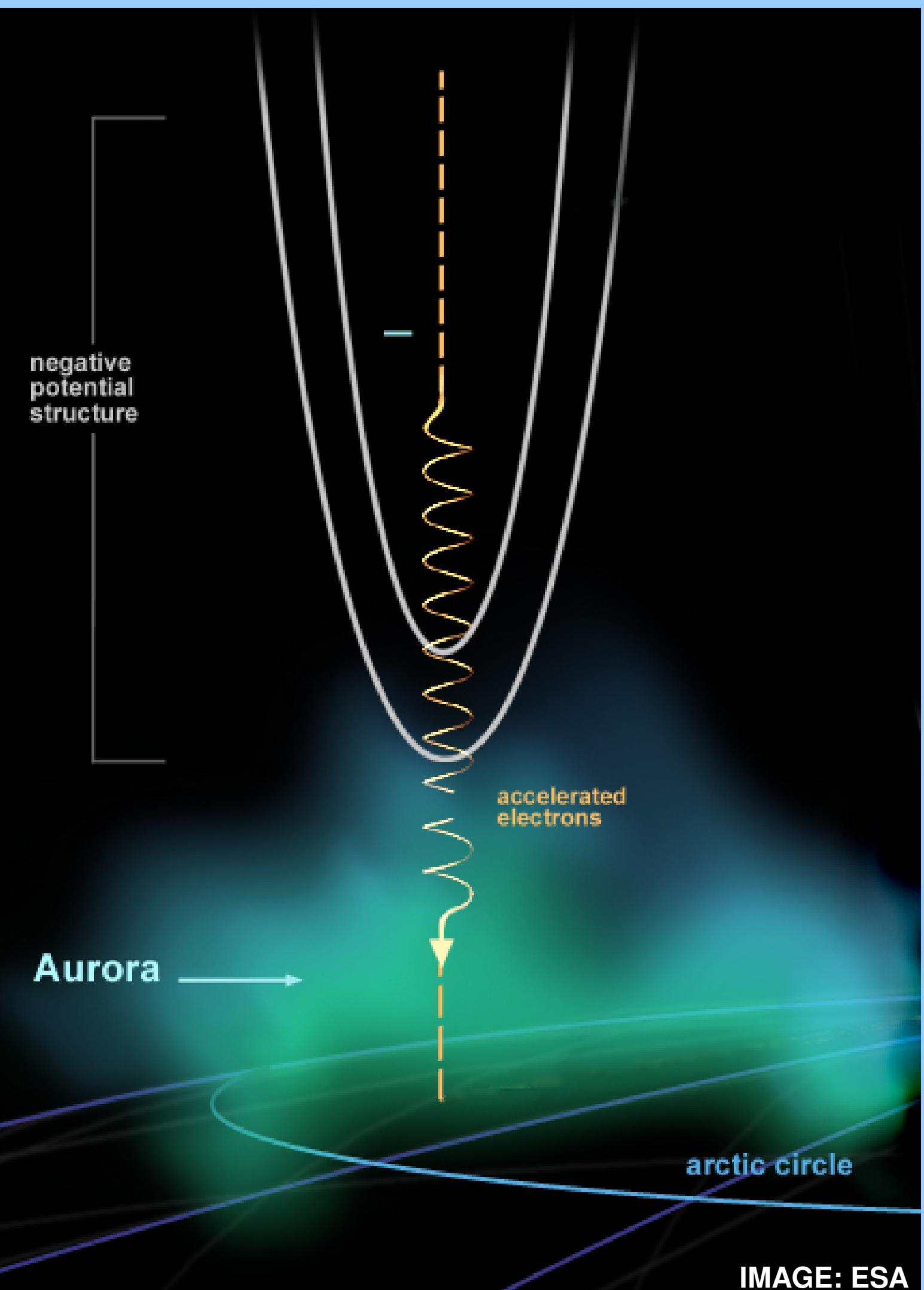
2. University of Iowa

3. KTH Royal Institute of Technology, Stockholm, Sweden

4. Imperial College, London

5. Université de Toulouse, Centre d'Etude Spatiale des Rayonnements, Toulouse, France

6. CNRS, UMR 5187, Toulouse, France

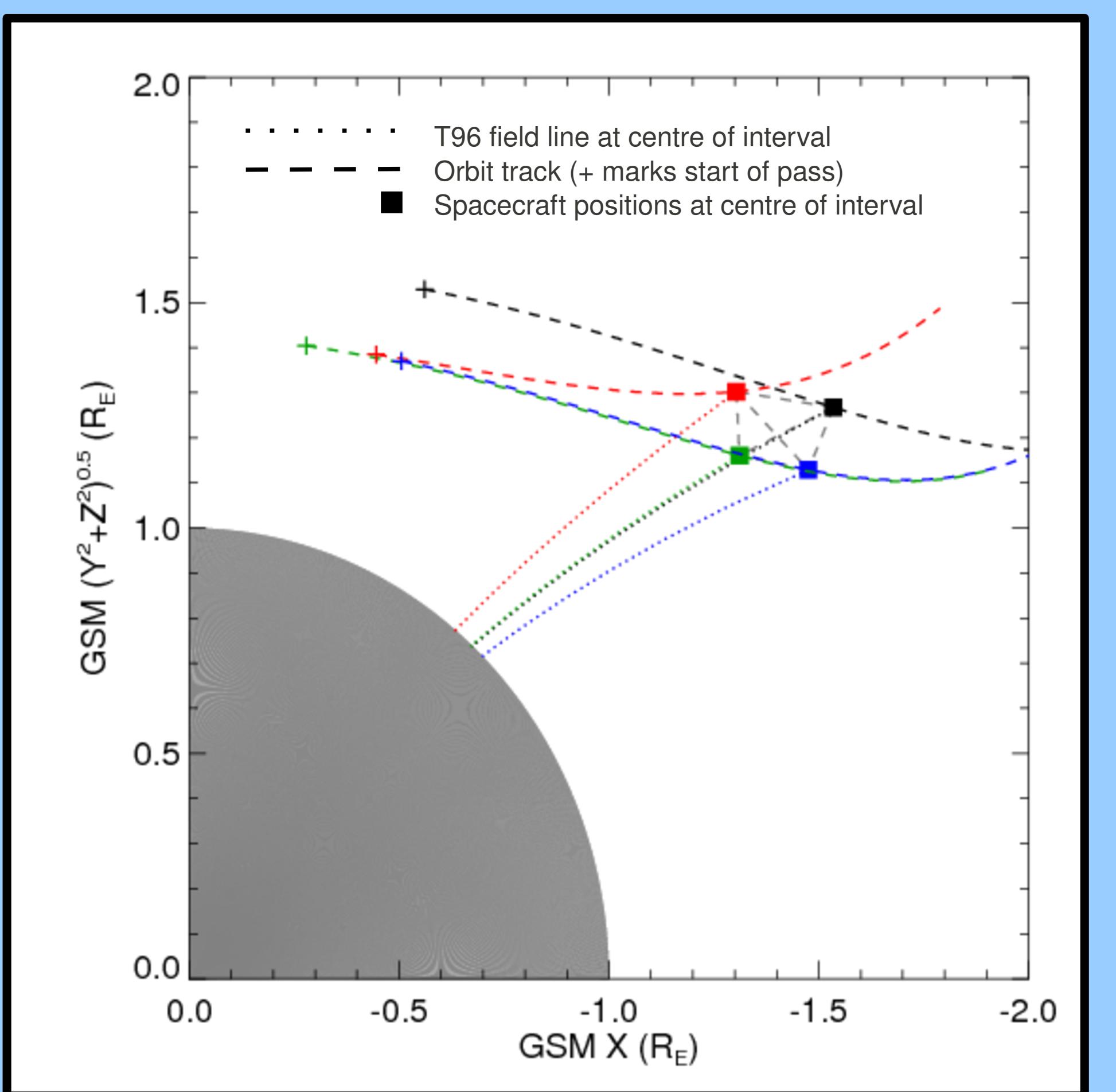


Since late 2008 the Cluster spacecraft have been making the first four-point measurements of the Auroral Acceleration Region (see illustration, left).

During December 2009 and January 2010 the Cluster Tetrahedron (see example, right) was optimised such that two spacecraft were sampling the same field line at different altitudes in the AAR, opening up an exciting new opportunity for the auroral science, Cluster and wider magnetospheric physics communities.

In order to stimulate auroral research with Cluster and aid in event selection, we have produced a set of summary plots for those Cluster perigee passes best suited for addressing open questions in auroral physics. The plots incorporate data from WBD, FGM, EFW, PEACE and CIS and are available from the Cluster PEACE website.

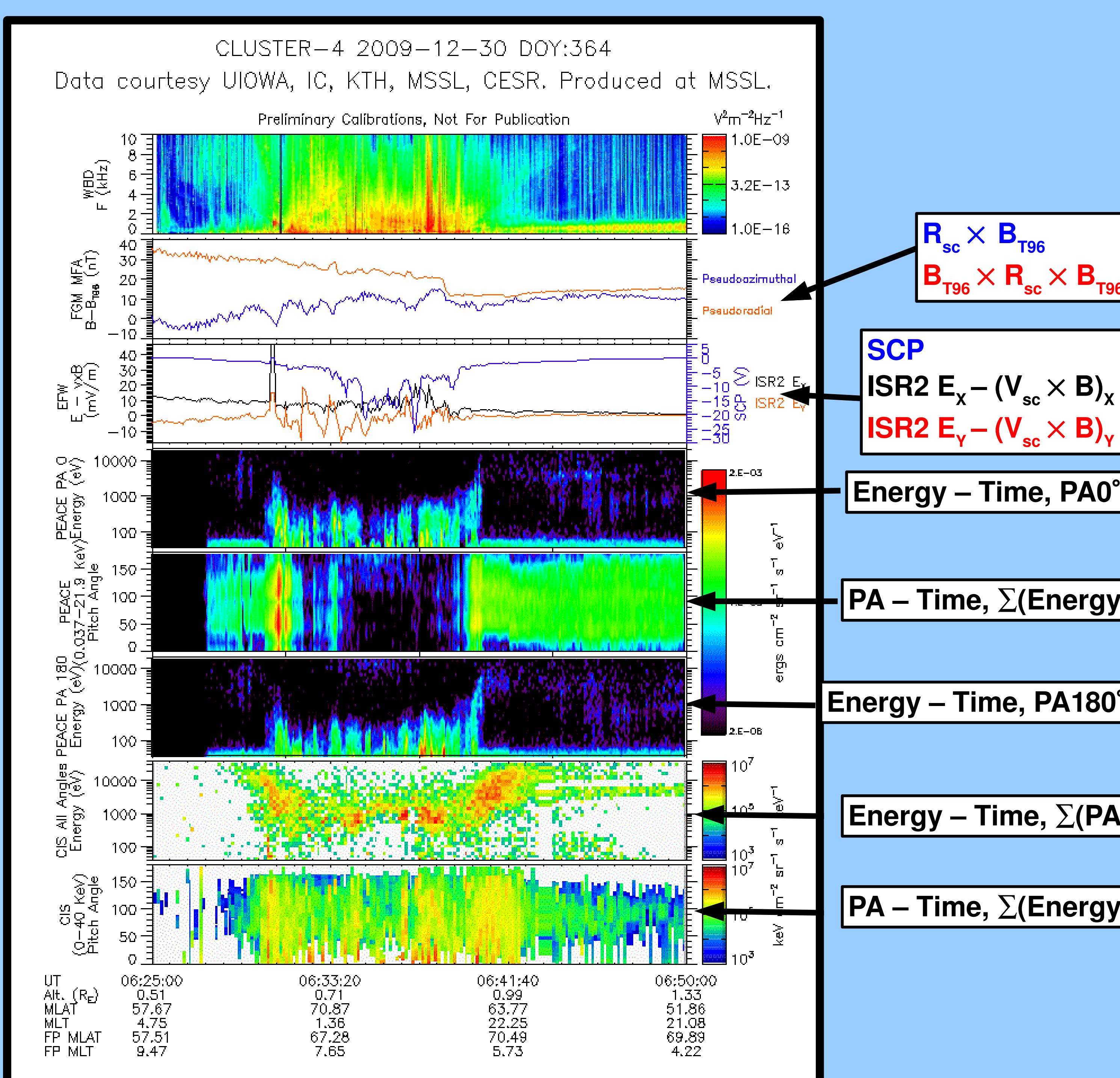
We encourage suggestions and comments to aid in planning future Cluster AAR campaigns.



An example optimised tetrahedron from 14 December 2009. C1 and C3 are magnetically conjugate at different altitudes along the field line. See Forsyth et al (this meeting) for details.

http://www.mssl.ucl.ac.uk/missions/cluster/AAR_SP_home.php

WBD



FGM

EFW

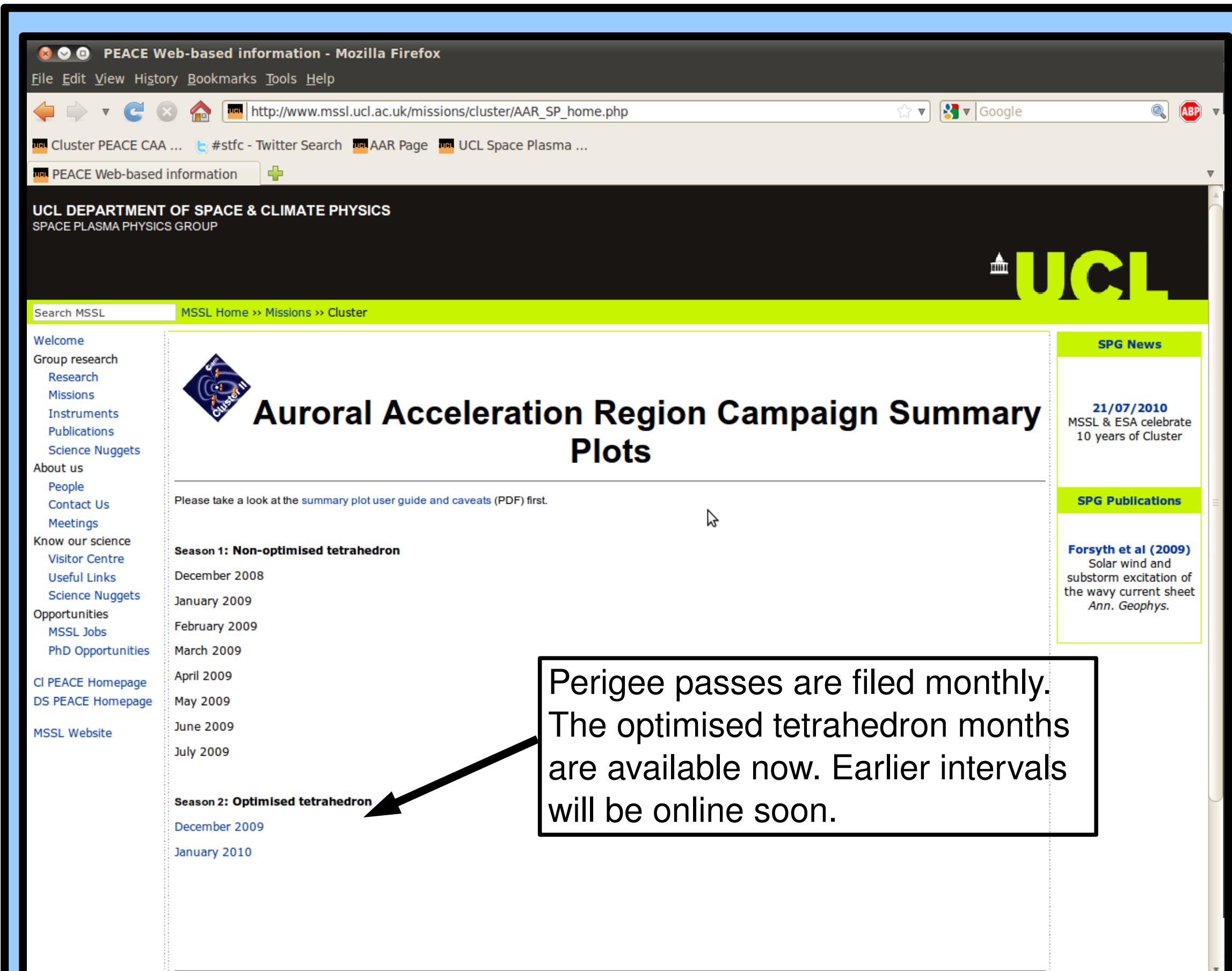
PEACE

PEACE

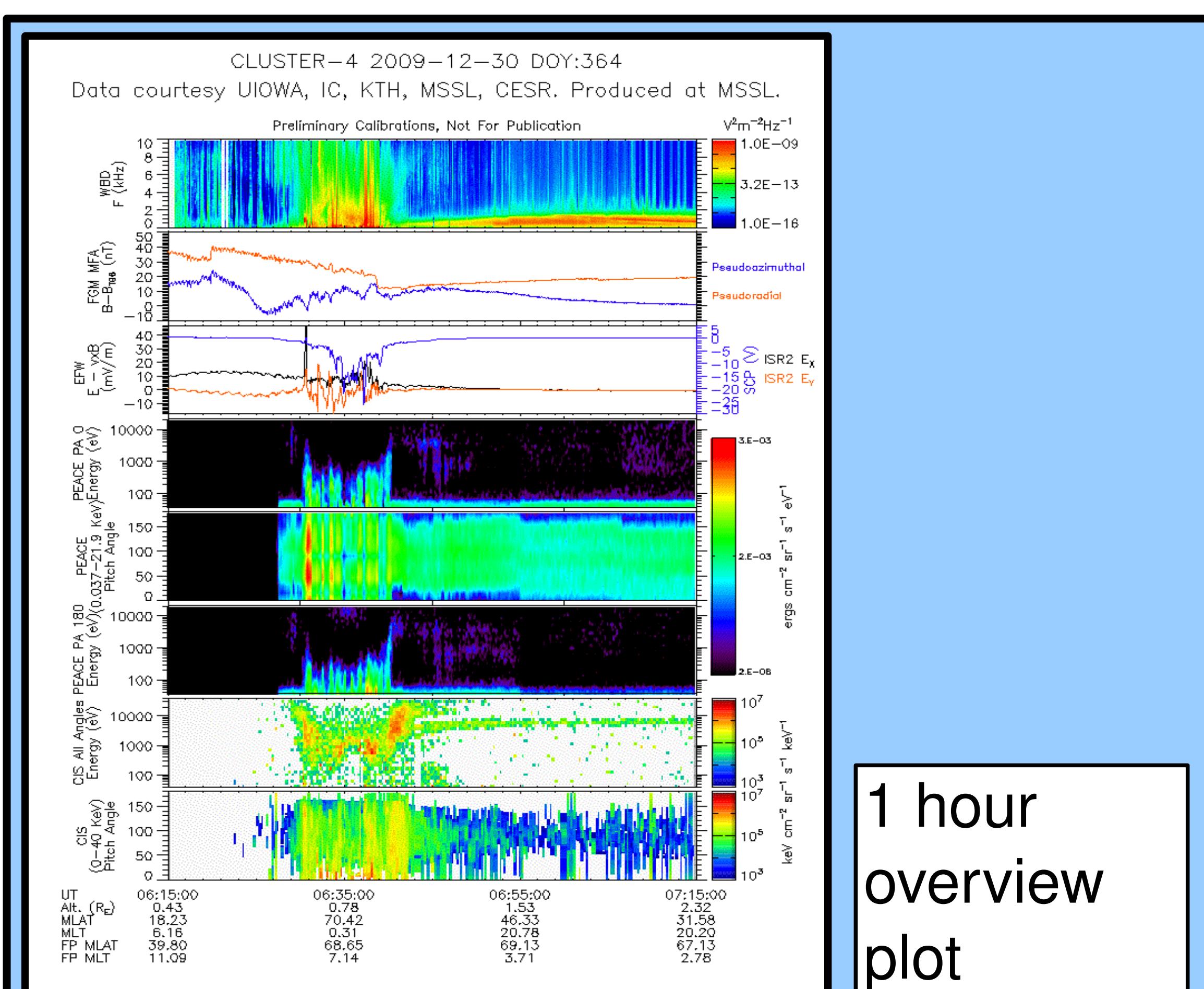
PEACE

CIS

CIS



- There is one plot per spacecraft per perigee pass.
- One hour overview plots (see example, right) are available now.
- ~Twenty minute zooms of interesting intervals are coming soon.
- Orbit / Tetrahedron plots will also be available.
- These plots are intended for event selection only.
- Data have only had preliminary calibrations applied – use with caution and check with the instrument teams if unsure.
- See the plot user guide for caveats relevant to each instrument.



Questions/Comments/Suggestions?
anf@mssl.ucl.ac.uk / apw@mssl.ucl.ac.uk