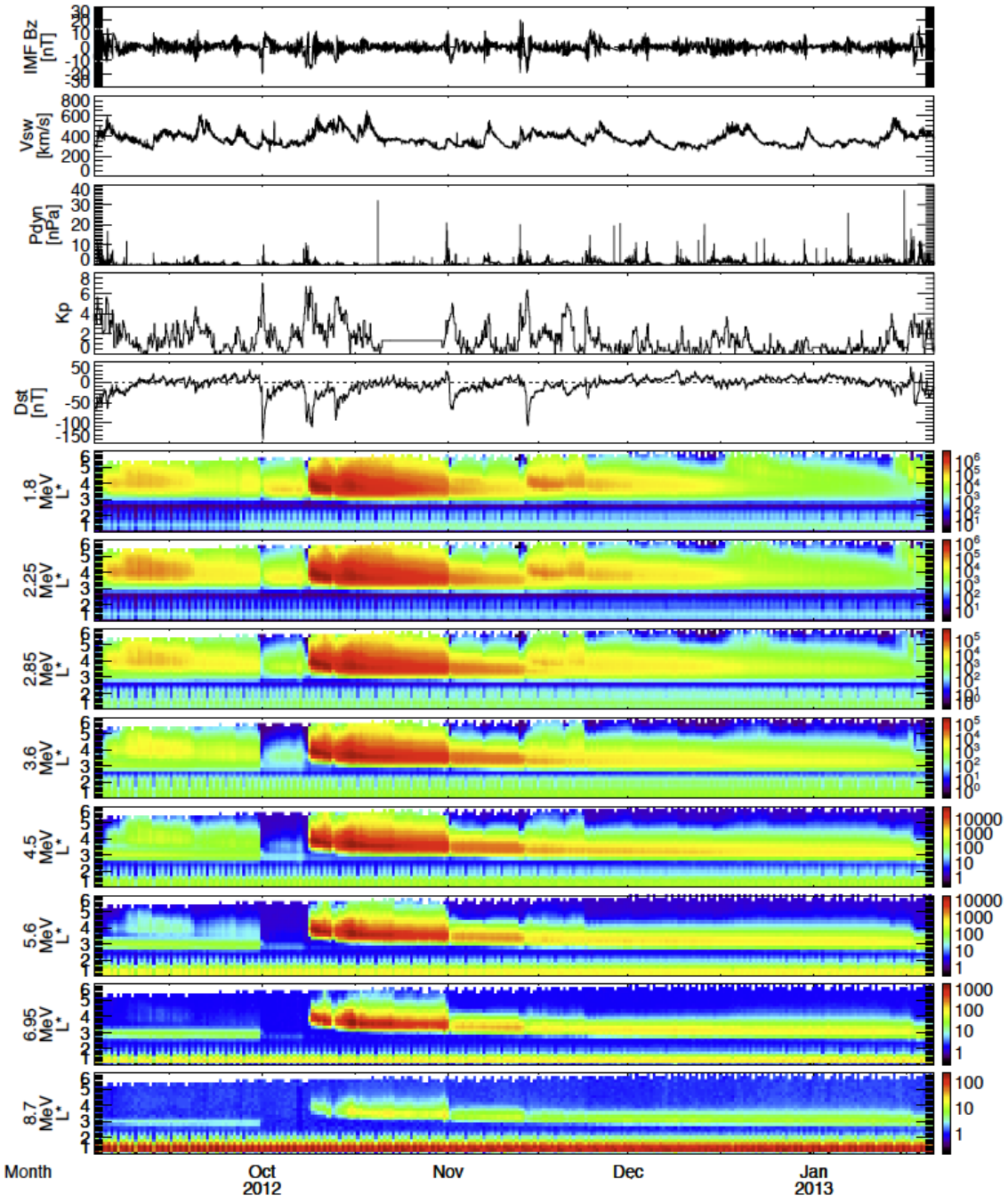
RBSP-SWG session on Wed Feb 27 10:00-12:30

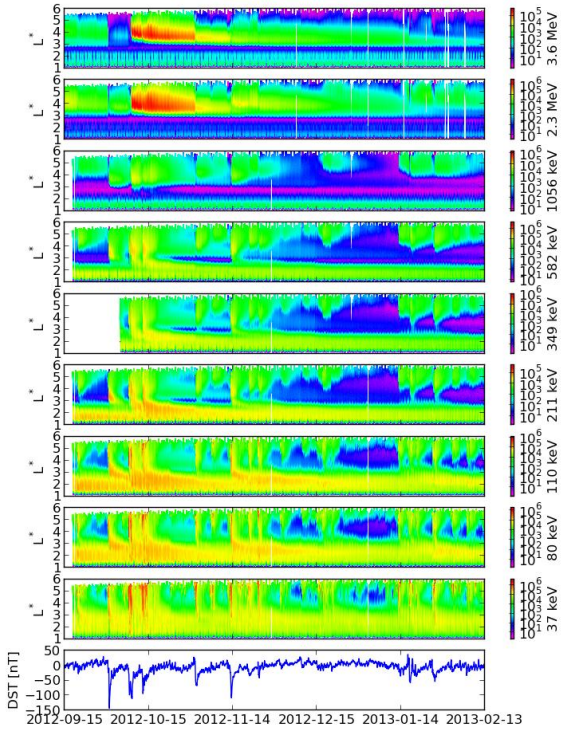
Particle Energization: Non-linear Effects, Boundary Conditions

The session will investigate the observational signatures and the solar wind and internal magnetospheric conditions responsible for efficient wave-induced electron acceleration to relativistic energies in the Earth's outer radiation belt. The session will be focused around the Oct 9, 2012 electron acceleration event. The following speakers have already been identified to lead the discussion on key processes, but other short contributions are welcome.

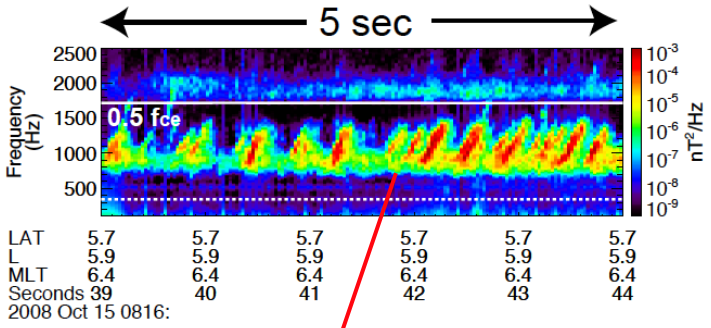
Geoff Reeves: Phase space density profiles during the Oct 9 acceleration event.
Harlan Spence: The seed electron population obtained from MagEis data.
Binbin Ni: Constructing drift and bounced averaged QL diffusion coefficients.
Wen Li: Modeling the global wave distribution using EMFISIS and POES data.
Richard Thorne: Simulation of local acceleration by chorus during the Oct 9 storm.
Vania Jordanova: RAM simulations of electron dynamics.
John Wygant: Convection electric field during the October 8-9 storm??

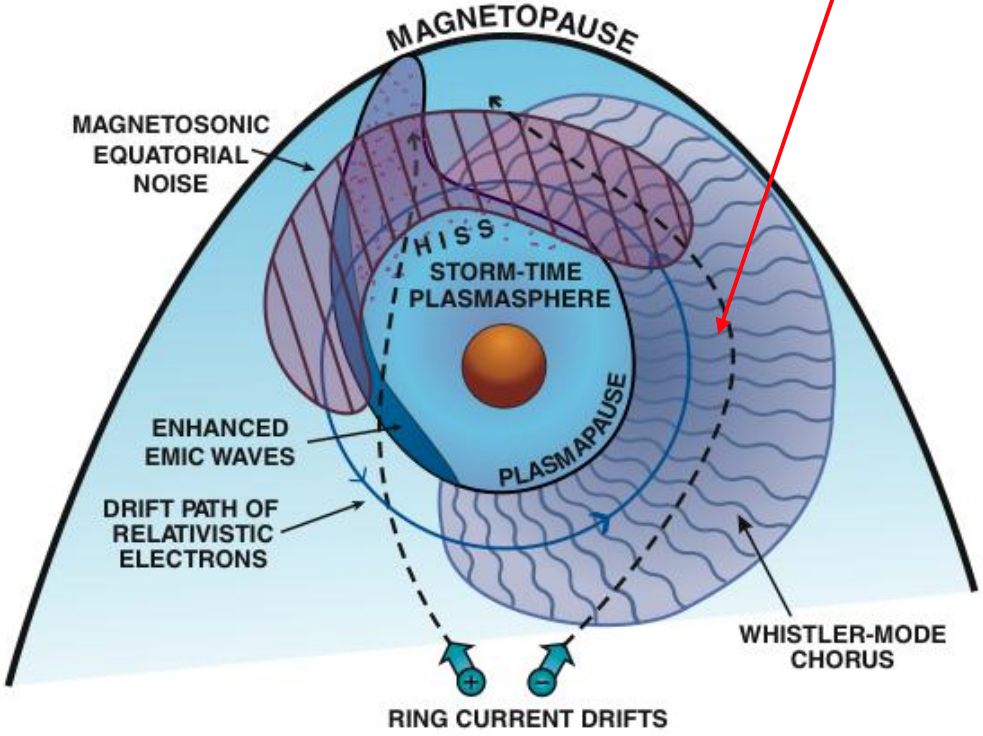
The Largest Relativistic Electron Acceleration Event Seen by REPT Sofar was Initiated by a Double Dip Storm On October 8-9, 2012



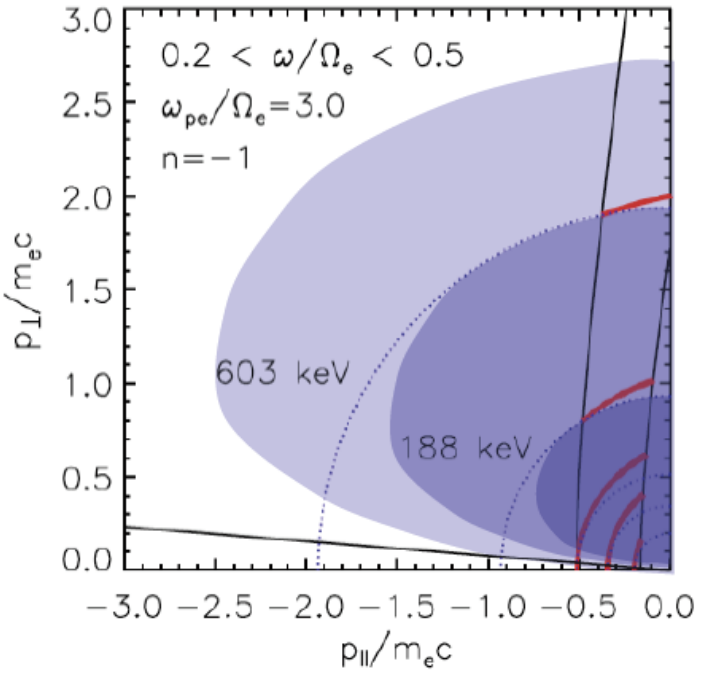


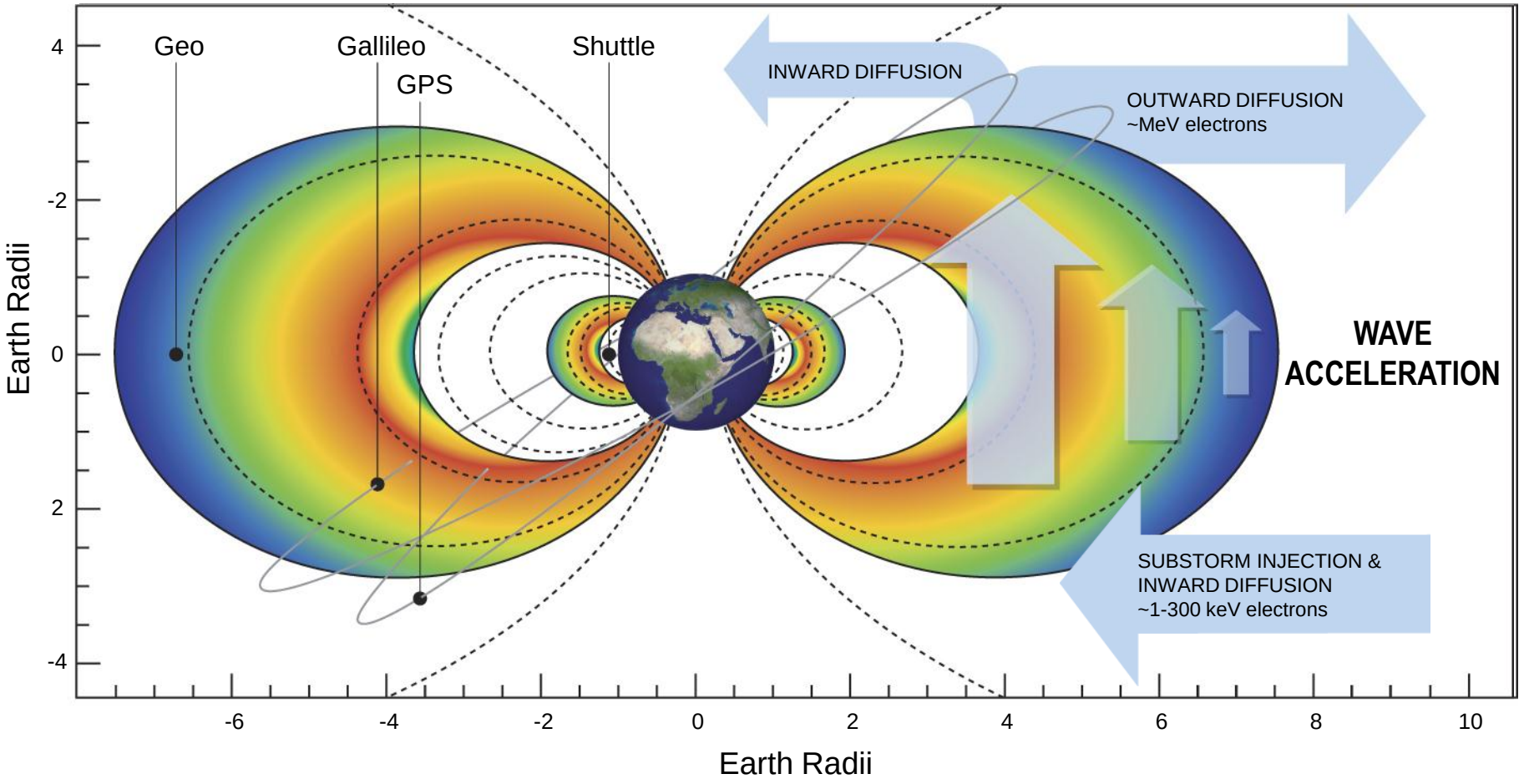
Resonant Interactions Between Whistler-Mode Chorus and Radiation Belt Electrons





$$\omega - k_{ll} v_{ll} = n \Omega_{gyro}/\gamma$$



Wave Acceleration in the Radiation Belts

Schematic by Richard Horne