
PROGRESS

PRediction Of Geospace Radiation Environment and Solar wind parameterS

Work package 4

Statistical wave models

WP4 – Statistical wave models

Four tasks

- Data collection and identification of modes
- Preparation for ERR analysis
- ERR analysis
- Development of statistical wave models

Original analysis

- Cluster 4 2001-2010
- THEMIS A, D, E 2008-2014

LPC2E delivered new data sets to Sheffield

- Cluster 2001-2015, all 4 satellites

Analysis rerun using all data

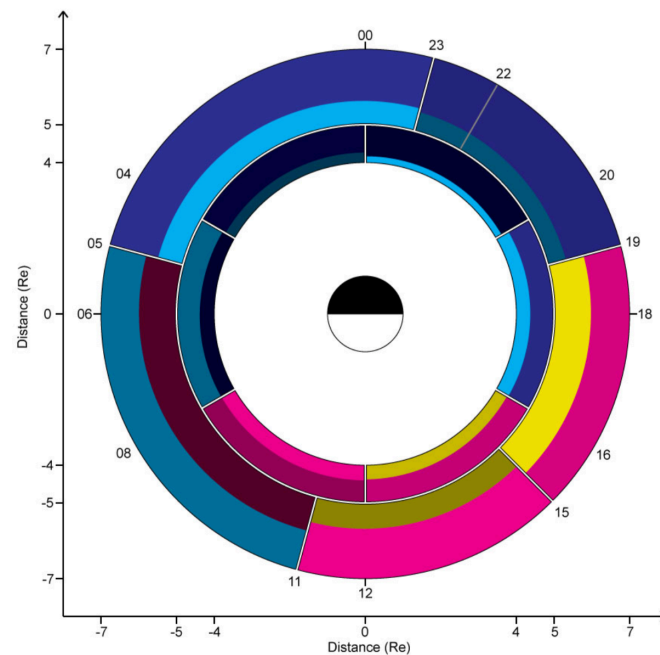
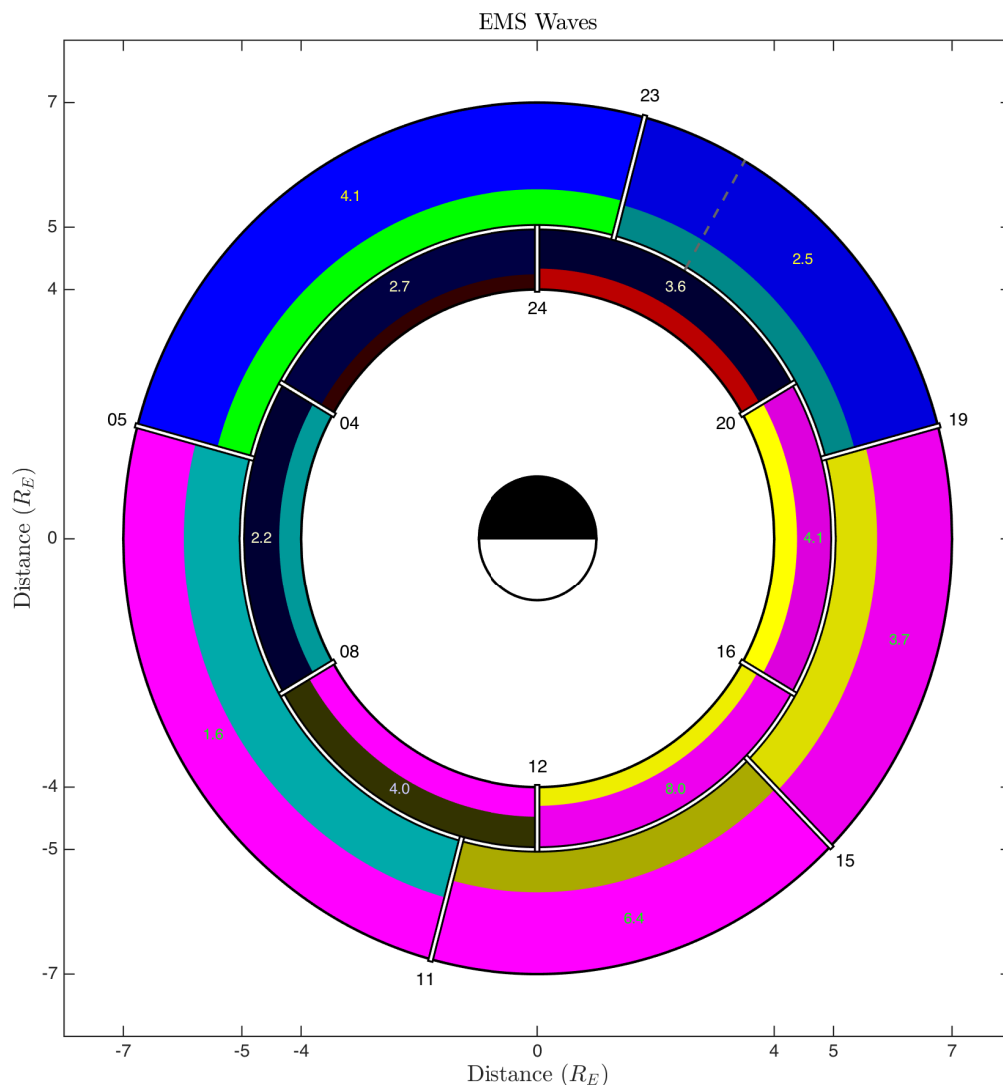
Some changes in results AE more prominent

Future plans

Smaller grid mesh

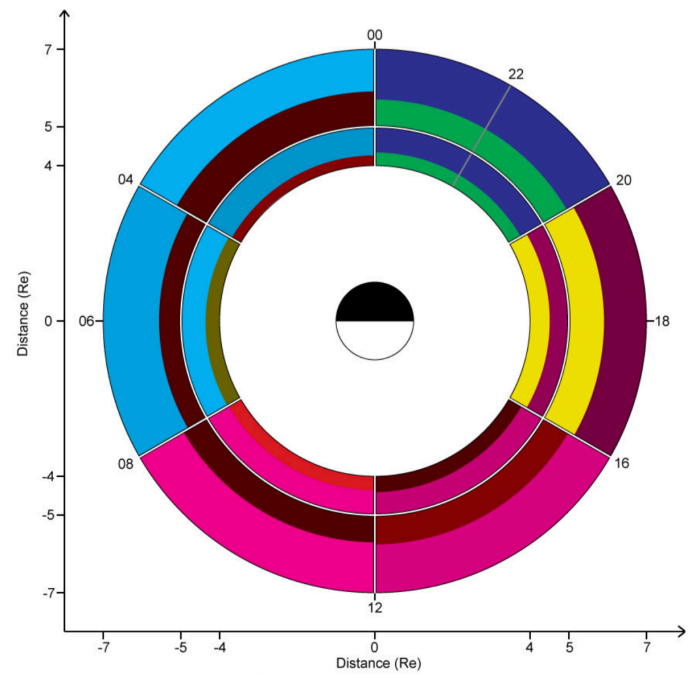
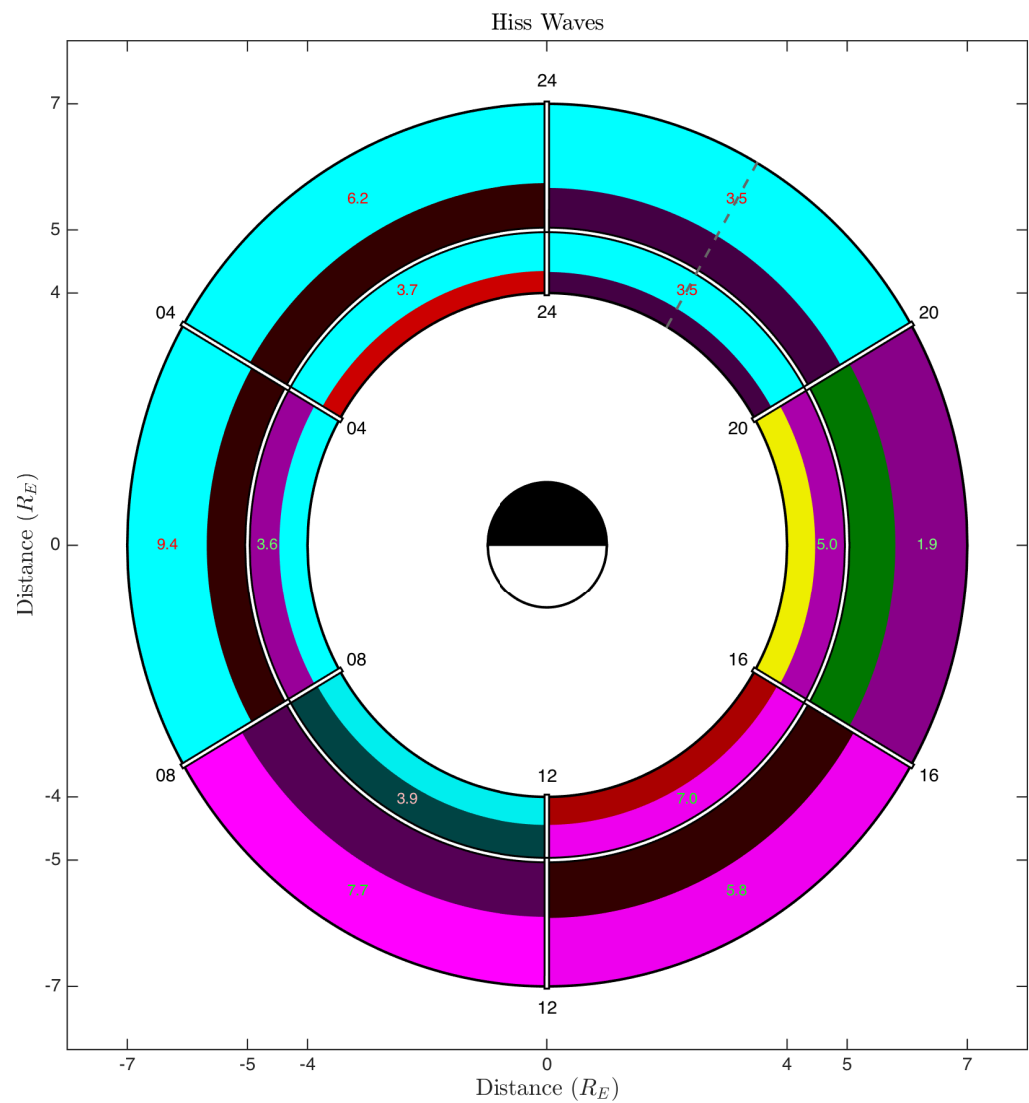
Differences Cluster and THEMIS

ERR analysis - EMW



Velocity	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
Density	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
Pressure	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
IMF Factor	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
Dst Index	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
AE Index	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12

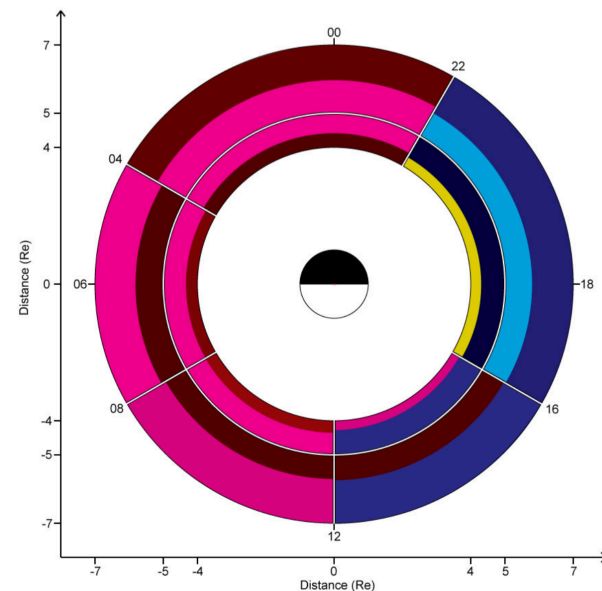
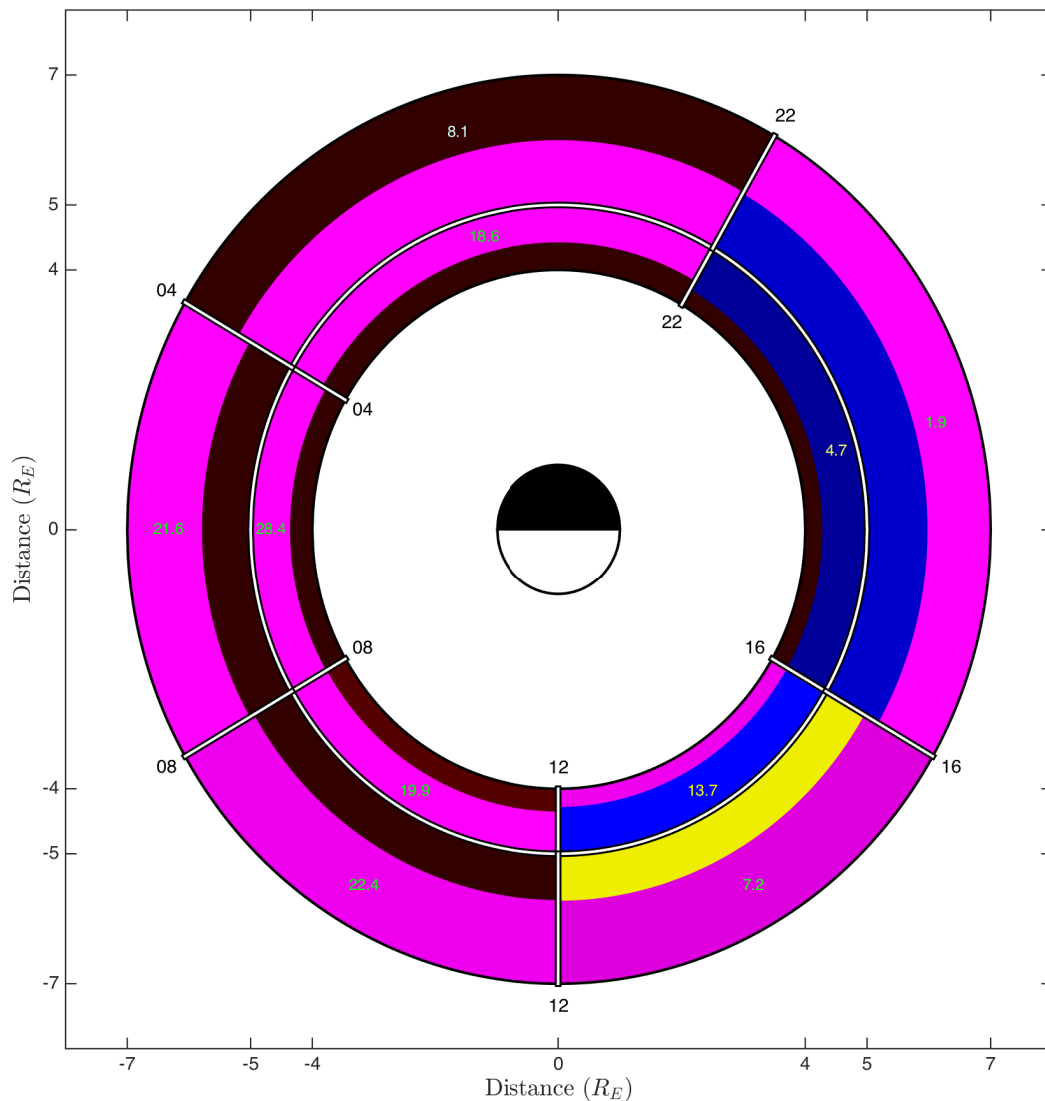
ERR analysis - Hiss



Velocity	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
Density	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
Pressure	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
IMF Factor	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
Dst Index	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
AE Index	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12

ERR analysis - LBC

LBC Waves



Velocity	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
Density	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
Pressure	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
IMF Factor	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
Dst Index	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
AE Index	t-0	t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12