

Radiation Belt & Waves (RBW) FG – year 1

1. Model development & validation
 - ▣ Make a list of potential acceleration/loss processes & quantify
 - ▣ Be aware of BC uncertainty; develop metrics for mechanisms
2. Preparing RB models for RBSP data
 - ▣ Presentations from RBSP teams; simulation of virtual RBSP fly-through
 - ▣ Virtual RBSP data will be made available soon
3. Wave-particle interactions
 - ▣ Nonlinear effects, inclusion in codes
 - ▣ Limitation of adiabatic invariants at high L
4. ULF waves
 - ▣ Wave characterization: satellites, ground, MHD simulations
5. ULF/VLF waves
 - ▣ Self-consistent wave simulations, EMIC, magnetosonic; VLF triggering
 - ▣ Wave characterization, databases, distribution
6. Planning

RBW planning and challenges

- We aim to run yearly challenges
- ViRBO support, input data & model results
- Challenge 1:
 - ▣ Focus on energetic electron dynamic variability
 - ▣ Use different models to simulate the same period
 - ▣ Given a set of solar wind and boundary conditions, produce RB distribution
 - ▣ Select 2-3 time periods for “training” codes
 - ▣ Select 3-4 periods for the simulation “challenge”
 - ▣ Specifics given at GEM mini-session at AGU
- RBWM mailing list for coordination