Journal of Geophysical Research – Space Physics

Supporting Information for "High Latitude EMIC Waves in the Earth's Inner Magnetosphere: A Global View of the Wave-Induced Source for Heavy Ion Conics and Warm Plasma Cloak" by K. V. Gamayunov (Department of Aerospace, Physics and Space Sciences, Florida Institute of Technology, Melbourne, FL, USA), Hyomin Kim, and Youra Shin (Department of Physics, New Jersey Institute of Technology, Newark, NJ, USA).

Documentation for the file "v47_RBSP_EMIC_MLATgt10_IntTh500nT2s_Ellipticity_06.11.25_Final_KG.xlsx":

This Excel document contains information about the 179 high latitude ($|MLAT| \geq 10^{\circ}$) He-band and H-band EMIC wave events from the two Van Allen Probes during their entire mission (2012-2019). These events are the observational basis for the manuscript "High Latitude EMIC Waves in the Earth's Inner Magnetosphere: A Global View of the Wave-Induced Source for Heavy Ion Conics and Warm Plasma Cloak" by K. V. Gamayunov, H. Kim, and Y. Shin submitted to the *Journal of Geophysical Research – Space Physics.* For each the He-band and H-band EMIC wave event in our database the following information is recorded:

event date,
probe (A or B),
start time and end time of event (UT hours and minutes),
event duration,
starting and ending electron number densities,
electron number density averaged over event duration,
average spacecraft potential,
starting and ending MLTs,
starting and ending L shells,
starting and ending MLATs,
lowest and highest wave frequencies,
the average O+, He+, and H+ gyrofrequencies,
double integral (see equation (1) in the manuscript),
peak spectral power of the wave magnetic field in local field-aligned coordinates for the transverse and field-aligned components,
EMIC wave band (He-band or H-band),
the average geomagnetic indices Dst, SYM/H, Kp, AE, and SME, and
the median wave ellipticity calculated along the 1st, 2nd, and 3rd harmonics of the O+ gyrofrequency for the He-band, and along the 4th, 5th, 6th, . . ., 15th harmonics of the O+ gyrofrequency for the H-band.