Long-term correlation of EMIC wave activity and radiation belt flux variations

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Electromagnetic ion cyclotron (EMIC) waves are transverse electromagnetic waves generated in the equatorial magnetosphere that are believed to play an important role in the dynamics of the most energetic, ~ a few MeV radiation belt electron population. We expand on the study by Usanova et al. [2014] demonstrating a clear correlation between ground EMIC wave activity and modulation of ultra-relativistic electron pitch-angle distributions. We will present analysis of long-term (several months) simultaneous radiation belt flux measurements and electron pitch-angle distributions observed by the REPT instrument onboard the Van Allen Probes together with ground measurements of EMIC wave power by the CARISMA magnetometer array.