SPATIOTEMPORAL DISTRIBUTION OF WHISTLER MODE CHORUS AND EQUATORIAL NOISE

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Whistler-mode chorus an intense wave emission, naturally occurring in the inner magnetosphere at frequencies of a fraction of the electron cyclotron frequency. These waves have been recently shown to play a role in the process of local acceleration of electrons in the outer Van Allen radiation belt. Studies have been published concerning generation of chorus and its effects, including the description of its interactions with energetic electrons. Equatorial noise is another intense wave emission that propagates close to the geomagnetic equator in the inner magnetosphere at frequencies between the local proton cyclotron frequency and the local lower hybrid frequency. It is believed to be generated by unstable ion distributions. Recent studies show that these waves could be able to interact also with energetic electrons. We present new results on spatiotemporal
distribution of these two types of waves and their propagation properties based on the data of the CLUSTER and Double Star spacecraft missions.

chorus

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