

Abstract Submitted  
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**A model for falling tone chorus in the Earth's magnetosphere** A. RUALDO SOTO-CHAVEZ, GE WANG, AMITAVA BHATTACHARJEE, GUO-YONG FU, Princeton Univ, HAKAN SMITH, Max Planck Institute for Plasma Physics — Motivated by the fact that geomagnetic field inhomogeneity is weak close to the chorus generation region and the observational evidence that falling-tone chorus tend to have large oblique angles of propagation, we present a new model for falling-tone chorus in which we propose that they start as a marginally unstable mode. The marginally unstable mode requires the presence of a relatively large damping, which has its origins in the Landau damping of oblique waves in this collision-less environment. A marginally unstable mode produces phase-space structures that release energy changing its frequency content. We show that the present model produces results in reasonable agreement with observations.

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