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# The properties of nonlinear chorus emissions related to the acceleration of relativistic electrons

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Chorus emissions are generated by the loss-cone instability of freshly injected 10 to 40 keV magnetospheric (substorm) electrons. Chorus is highly nonlinear, and therefore time-averaged power spectra are insufficient to use in the study of relativistic electron acceleration. In this study we will examine five components (2 E and 3 B) GEOTAIL waveform data for three types of chorus elements: rising tone, falling tone and structureless forms. The coherency of the waves and the high-time resolution wave amplitude versus time profiles will be examined in detail. Chorus is found to maximize at three regions in the magnetosphere: post-midnight, post-dawn and at minimum B pockets. We will make an assessment of where relativistic electron acceleration is most likely to take place.