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Whistler-mode chorus emissions often consist of discrete rising tone elements in the typical frequency range from 0.1 to 0.8 fce with a gap at 0.5 fce, where fce is the equatorial electron gyrofrequency. The emissions below and above 0.5 fce are called lower- and upper-band chorus emissions, respectively. Based on the duct propagation characteristics of whistler-mode waves, Bell et al. [2009] showed that the gap at 0.5fce can be formed if the lower-and upper-band chorus waves are generated within the enhanced and depleted plasma density region, respectively. While Omura et al. [2009] has suggested that a rising tone chorus element is once generated near the magnetic equator through the nonlinear wave growth mechanism in the purely parallel direction, and that the gap at 0.5 fce is formed by the nonlinear wave damping effect during its propagation away from the equator with a slightly oblique wave normal angle, resulting in the separation of the chorus element into the lower-band and upper-band chorus emissions. Based on the nonlinear wave growth mechanism, chorus emissions without a gap at 0.5 fce are expected to be observed in the source region. In this presentation, we report the presence of rising tone chorus emissions without the gap at 0.5 fce observed by the searchcoil magnetometer (SCM) onboard the THEMIS spacecraft. The propagation angles of the chorus emissions are almost along the background magnetic field in the entire frequency range, indicating that the chorus emissions are observed in the source region. The frequency sweep rates are estimated based on the nonlinear wave growth theory using the observed wave amplitudes and plasma parameters during the observation. We compare them with the instantaneous frequency variation of the elements derived from the SCM data and show that the estimated sweep rates well agree with the observed frequency variations. Furthermore, the frequency profiles of the wave amplitude of the elements are compared with the optimum amplitude proposed by Omura and Nunn [2011]. The comparison shows reasonable agreement between the theory and the observations. These results provide strong observational evidence of the nonlinear wave growth mechanism for the generation of rising tone chorus emissions.

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