



Ionospheric wave activity recorded by DEMETER during a large magnetic storm

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DEMETER was a 3-axis stabilized Earth-pointing spacecraft launched on June 29, 2004 into a low altitude (~ 710 km) polar and circular orbit that was subsequently lowered to 650 km till the end of the mission in December 2010. The orbit was nearly sun-synchronous with an ascending node at ~ 22.30 LT in the night sector and a descending node at ~ 10.30 LT during day-time. DEMETER measured electromagnetic waves all around the Earth except in the auroral zones (invariant latitude $> 65^\circ$), then the data files are organized by half-orbit. The frequency range for the electric field was from DC up to 3.5 MHz, and for the magnetic field from a few Hz up to 20 kHz. The largest magnetic storm of the entire DEMETER mission occurred in November 2004 (maximum Dst = - 373 nT and Kp = 9 on 8 November), and it was the opportunity to record many new phenomena in the equatorial region, in the through, or along the complete half-orbits. The paper will show examples of the wave emissions recorded at this time. All these phenomena were related to injection of particles in the ionosphere.