



## **Diurnal modulation of the AKR**

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The Cassini spacecraft performed a close Earth fly-by on Aug. 18th, 1999. On this occasion, the RPWS instrument on board Cassini recorded one month of quasi-continuous observations of terrestrial Auroral Kilometric Radiation (the AKR). Automated extraction and careful calibration of the AKR emission from RPWS data allowed us to build long-term time series and dynamic spectra, from which we analyse average properties of the AKR. In particular, we observe for the first time a clear diurnal modulation of the AKR at 24 hours. A corresponding rotational control should be much less prominent than those at the outer planets because the magnetospheric dynamics at Earth is governed by substorm activity which little depends on the planetary rotation. However the periodic variation of the relative geometry between the geomagnetic field and the IMF was nevertheless expected to modulate the reconnection rate at the magnetopause and thus the level of substorm activity. Moreover, the emission visibility varies with the magnetic latitude of Cassini and its distance to the Earth, due to the source radiation pattern anisotropy. We discuss the possible origins of the observed modulation and the implications on our understanding of terrestrial magnetospheric dynamics in the frame of the outer planets case.