



## **On the character and distribution of lower-frequency radio emissions at Saturn, and their relationship to substorm-like events**

C.M Jackman (1), L Lamy (2), M.P. Freeman (3), P. Zarka (2), B. Cecconi (2), W.S. Kurth (4), S.W.H. Cowley (5), and M.K. Dougherty (1)

(1) Imperial College London, Space and Atmospheric Physics Group, London, United Kingdom (c.jackman@imperial.ac.uk), (2) Observatoire de Paris, LESIA, Meudon, France, (3) British Antarctic Survey, Cambridge, UK, (4) University of Iowa, Iowa, USA, (5) University of Leicester, Leicester, UK

With the arrival of the Cassini spacecraft at Saturn in July 2004, there have been quasi-continuous observations of Saturn Kilometric Radiation (SKR) emissions. Exploration of the nightside magnetosphere has revealed evidence of plasmoid-like magnetic structures and other phenomena indicative of the kronian equivalent of terrestrial substorms. In general, there is a good correlation between the timing of reconnection events and enhancements in the auroral SKR emission. The vast majority of reconnection events occur at SKR phases where the SKR power would be expected to be rising with time. We show three examples in each of which the SKR spectrum extends to lower frequencies. We then conduct a survey of such low frequency extensions during the equatorial orbits of 2005-2006, and place some constraints on visibility of these radio emissions.