



## **Influence of transient magnetospheric compressions on thermospheric flows at Jupiter**

Japheth Yates, Nicholas Achilleos, and Patrick Guio

University College London, Physics and Astronomy, United Kingdom (japheth.yates.09@ucl.ac.uk)

The coupling of Jupiter's magnetosphere and ionosphere plays a vital role in creating its auroral emissions. The strength of these emissions is somewhat dependent on the relative rotational flows within Jupiter's thermosphere and the magnetodisc. Using an azimuthally symmetric global circulation model, we were able to simulate how up-stream solar wind conditions affect atmospheric flows (Yates et al 2010 arXiv:1012.3411v1 [astro-ph.EP]). Here we extend these steady-state calculations by applying the model to rapid compressions and expansions of the magnetosphere. We comment on the atmospheric response to these transient events, and the corresponding auroral signatures.