



RSPP seminars



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“The ultraviolet aurorae at Jupiter: Juno’s perspective (with a little help from Hubble and Hisaki)”

It is always challenging to understand a complex system from fragmented pieces of information only. This is particularly true for the magnetosphere and aurorae at Jupiter, since we only had access to single point measurements and a few snapshots of the aurora and of the plasma torus. Furthermore, the strength of the magnetic field, the larger distance to the Sun, the presence of an internal plasma source and the rapid rotation of Jupiter make these systems fundamentally different from what we know on Earth, making the direct importation of concepts from one planet to another perilous. The Hisaki and Juno missions, together with the large Hubble Space Telescope observations campaigns supporting them, considerably helped to fill critical gaps in the datasets by giving us access to the history of events. In particular, the spatial and/or temporal continuity that characterize these new observations has allowed us to better disentangle the internal and external factors ruling the way matter and energy circulate into these systems. Moreover, high resolution images and comparisons between in-situ and remote sensing measurements also proved to be particularly powerful tools to test theories. During this seminar, I will focus on a few key results from the Juno era, including the satellite footprints, plasma injection signatures, the general auroral morphology, dawn storms and the polar emissions. I will discuss how some of them essentially confirmed our understanding of the auroral processes while others challenged them considerably.

Wednesday, October 9th at 2 pm in
Physics LTD