

APIS : an interactive database of HST-UV observations of the outer planets

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Abstract

Remote UV measurement of the outer planets are a wealth of informations on rings, moons, planetary atmospheres and magnetospheres.

Auroral emissions in particular provide highly valuable constraints on the auroral processes at work and the underlying coupling between the solar wind, the magnetosphere, the ionosphere and the moons. Key observables provided by high resolution spectro-imaging include the spatial topology and the dynamics of active magnetic field lines, the radiated and the precipitated powers or the energy of precipitating particles.

The Hubble Space Telescope (HST) acquired thousands of Far-UV spectra and images of the aurorae of Jupiter, Saturn and Uranus since 1993, feeding in numerous magnetospheric studies. But their use remains generally limited, owing to the difficulty to access and use raw and value-added data.

APIS, the egyptian god of fertilization, is also the acronym of a new database (Auroral Planetary Imaging and Spectroscopy, Figure 1), aimed at facilitating the use of HST planetary auroral observations. APIS is based at the Virtual Observatory (VO) of Paris and provides a free and interactive access to a variety of high level data through a simple research interface and standard VO tools. We will present the capabilities of APIS and illustrate them with several examples.



Fig. 1 : a database of UV observations of the outer planets (Jupiter, Saturn, Uranus)