JUNO–GROUND–RADIO OBSERVATIONS SUPPORT

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Abstract

The JUNO mission is a NASA flagship mission dedicated to the study of Jupiter. Several instruments are dedicated to the study of the Jovian internal magnetic field and its inner magnetosphere. In the frame of the preparation of the NASA/JUNO and ESA/JUICE (Jupiter Icy Moon Explorer) missions on one hand, and the development of a planetary sciences virtual observatory (VO) on the other hand, we are proposing new tools directed to data providers and scientists, in order to ease low frequency radio astronomy data products sharing and discovery. We will focus on

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ground-based planetary radio observations (thus mainly Jupiter radio emissions), trying for instance to enhance the temporal coverage of Jovian decametric emission. The data service we will be using is EPN–TAP, a planetary science data access protocol developed by Europlanet–H2020-RI/VESPA (Virtual European Solar and Planetary Access). This protocol is derived from IVOA (International Virtual Observatory Alliance) standards. Observations of Jovian radio emissions from the Nançay Decameter Array (France) and the Iitate radio observatory (Japan) are already shared on the planetary science VO using this protocol. Amateur radio data from the RadioJOVE project is also available. We will first introduce the VO tools and concepts of interest for the planetary radioastronomy community. We will then present the various data formats now used for such data services, as well as their associated metadata. We will finally show various prototypical tools that make use of this shared datasets.

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