Sharing Low Frequency Radio Emissions in the Virtual Observatory: Application for JUNO-Ground-Radio Observations Support.

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In the frame of the preparation of the NASA/JUNO and ESA/JUICE (Jupiter Icy Moon Explorer) missions, and the development of a planetary sciences virtual observatory (VO), we are proposing a new set of tools directed to data providers as well as users, in order to ease data sharing and discovery. We will focus on 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-VESPA (Virtual European Solar and Planetary Access). This protocol is derived from IVOA (International Virtual Observatory Alliance) standards. Data from all major decametric radio instruments will contribute: Nançay Decameter Array (France), LOFAR (France, Sweden, Poland), NenuFAR (France), URAN (Ukraine), LWA (USA), Iitate Radio Observatory (Japan), etc. Amateur radio data from the RadioJOVE project is also available. The attached figure shows data from those three providers. 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.

Keywords: Jupiter, Radio Astronomy, Virtual Observatory