

## France-Japan collaborations in development of integrated data archives of Jovian decametric radiation from multiple observatories

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In order to support the collaborative studies on Jovian and Kronian auroral radio emissions between French and Japanese researchers, JSPS Bilateral Program "Coordinated observational and theoretical researches for Jovian and Kronian auroral radio emissions" has started since April 2016. In this program, we are planning joint research on (1) Jovian auroral radio emissions based on multiple ground-based observations at Nancay, Iitate, etc., (2) Kronian auroral radio emissions based on dataset from Cassini, (3) Comparison with spectroscopic observations based on dataset from Hisaki, and (4) Models (Solar wind, Jovian MTI coupling). Details on research activities are also shown via <http://c.gp.tohoku.ac.jp/sakura/>.

With support of this program, we are developing meta data archives of Jovian radio emissions in decametric wavelength range (Jovian DAM, 20-40MHz) obtained at Nancay and Iitate observatories. The merit of the ground-based observations is that high sensitivity antenna and high time resolution receiver can be employed without limitations of the equipment mass and downlink data rate, which often becomes issues in spacecraft observations. On the other hand, the demerit of the ground-based observation with single station is coverage: The ground station cannot observe Jovian radio emission while the Jupiter is below the horizon. However, this demerit can be solved by combining datasets from multiple stations in different longitude range. Virtual Observatory (VO) could be a promising solution for such combined data analyses. In preparation of the collaborative ground-based radio wave observation with Juno, which started the in-situ observations of the Jovian polar magnetosphere in this summer, the researchers working on ground-based observations of Jovian radio wave in Europe, US, and Japan started collaborations such as having a new support portal for collaborative planning of ground-based observations. Wideband radio spectrogram data obtained at Iitate observatory since 2004 in CDF format have been provided via Iitate HF radio wave data archive (<http://ariel.gp.tohoku.ac.jp/~jupiter/>). In addition, we finished setup of a new repository server for VO interface at Tohoku University in 2015 with supports of Paris Observatory team. This server will be the first step for integrated browsing of the Jovian radio wave data from multiple ground stations via VO interface. In addition, we started development of meta data archives for other datasets such as Jovian synchrotron radiations obtained by Iitate Planetary Radio Telescope (IPRT) and spectroscopic observation data from Hisaki. In the presentation, we are going to show the analyses results focusing on the Jovian DAM during volcanic activity in 2015 found by Hisaki as a typical example of use case of the integrated datasets from Nancay and Iitate.