

## Polarization characteristics of Jupiter's hectometric radio emission

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It has been known that Jupiter shows somewhat rare characteristic in its polarization of non-thermal radio emission among low frequency radio stars; i.e., highly elliptical polarization of the decametric wave length radio emission (DAM) which is the most intense Jupiter's radio emission. On the other hand, the polarization characteristic of Jupiter's longer wave length ranges, even another intense radio emission component in the hectometer wave length range (HOM), is poorly known due to very limited observations. Therefore investigations of the polarization characteristic is thought to be one of important observation themes, particularly in the on-going the JUICE (JUperiter ICy moons Explorer) mission as the two points; one is as it would give clues to the origin of the long wave radio emissions and another one is as it may provide information as a remote sensing tool on plasma environment along their propagation paths of, for example, Io plasma torus and ionospheres of icy moons with the Faraday rotation analysis.

In order to evaluate a possibility of plasma environment exploration using the polarization characteristics of Jupiter's radio emissions with the JUICE mission, we have investigated polarization characteristics of HOM using the data provided by High Frequency Analyzer (HFA) which is a subsystem of Plasma Wave Experiment (PWE) onboard the Arase (ERG) spacecraft. Preliminary analyses suggest that HOM seems to show the CML (Central Meridian system III Longitude of an observer) dependence in its axial ratio of its polarization ellipse. In the presentation, we will show statistical polarization characteristics of HOM with the current and future interests and importance of this study.

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