Evaluation of the long baseline interferometer observation data for the Jovian decametric radiations

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A simulation study has been carried out to evaluate the data analysis method and the observation system of multi-frequency interferometer which have been developed to identify the source location of Jovian decameter radiations within a spatial resolution of 1 Jovian radius. The validity of the long baseline interferometer observation largely depends on the method to discriminate the influence of the ionosphere along the propagation paths. The simulation study includes the effects of (1)difference of propagation paths between 2 observation frequencies and (2) the S/N ratio of observed signals. The results showed that by using newly developed system the location of radiation sources can be determined within the resolution of 1 Jovian radius.