

Evaluation of De dependence of Jovian DAM radiation by using a ray tracing analysis

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From long term observations, it has been found that the occurrence probability of the Jovian decametric radiation(DAM) changes in a twelve-year cycle. This variation has been interpreted as the dependence on De(the jovicentric declination of earth) that changes within ± 3.3 degrees with the Jovian revolution. We have examined the De effect by using the ray-tracing method, considering the change in geometry caused by De. Results showed that the variation in the occurrence probability couldn't be explained by the geometrical effect due to the change of De. The twelve-year periodicity of DAM should be explained depending on other effects such as the change of the Galactic back ground noise level, the shielding effect of terrestrial ionosphere, or the seasonal variation in the activity of DAM.