



Polarization of Jovian DAM emission as inferred from active longitude model

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Long-term observations of Jupiter's decametric (DAM) radiation have shown that a large part of emission is modulated by two dominant factors: the planetary rotation and the orbital phase of Io. The first one indicates that the occurrence probability of the radiation depends on the observer's longitude, while the second factor points to a control of part of the radio emission by Io. Spectropolarimeter measurements showed that the radiation emitted from the northern and southern hemispheres are right-hand and left-hand circular polarized, respectively. Here we compare the Jovian decametric polarization observations to those derived from the active longitude model proposed by Galopeau et al. (JGR, 109, 2004). This model gives evidence of the presence of a longitude range in the northern and southern hemispheres favoring the radio decametric emission and leading to a higher occurrence probability. We discuss the common polarization features between the model and the observations, and we show that the behaviors of the southern and northern sources are not alike despite a same generation mechanism.