

New Predictions of the Jovian Aurora: Location, Latitudinal Width, and Intensity

B. T. Tsurutani, J. K. Arballo and C. M. Ho (all at Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109; e-mail: btsurutani@jplsp.jpl.nasa.gov)

N. G. Lin and P. J. Kellogg (University of Minnesota, Department of Physics, Minneapolis, MN 55455)

N. Cornilleau-Wehrin (CETP/UVSQ, 10-12 Avenue de l'Europe, France; e-mail: nicole.cornilleau@cetp.ipsl.fr)

N. Krupp, (Applied Physics Laboratory, Johns Hopkins University, Laurel, Maryland; e-mail: krupp@ulysses.jhuapl.edu)

A model/theory for the Jovian aurora is formed based on a similar model for the dayside aurora at Earth and recent Ulysses field and particle measurements at Jupiter. A plasma boundary layer is formed by cross-field diffusion of magnetosheath plasma into the magnetosphere proper. Wave-particle resonant interactions will cause the particles to go on strong to near-stm-g pitch angle. diffusion with the concomitant aurora. The model's prediction of the aurora's location, latitudinal width and intensity (all derived from Ulysses f and p measurements) will be discussed in detail. Galileo imaging observations can be used to determine if this model/theory is correct or not,

1. 1995 AGU Fall Meeting

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3a) B. '1'. Tsurutani
Jet Propulsion Laboratory
Ms 169-506
4800 Oak Grove Drive
Pasadena, CA 91109

b) Tel. 818354-7559

c) Fax 818354-8895

d) btsurutani@jplsp.jpl.
nasa.gov

4. Planetary

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Jupiter System Prediction

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