

IONOSPHERES OF THE **GALILEAN** SATELLITES OF JUPITER FROM GALILEO RADIO OCCULTATIONS **A.J. Kliore**. (Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109, USA), **D. P.Hinson** (Stanford University, Stanford, CA 94035, USA), **F.M. Flasar** (NASA Goddard Space Flight Center, **Greenbelt**, MD 20771, USA), and **A.F. Nagy** (University of Michigan, Ann Arbor, MI 48109, USA)

The Galileo orbiter spacecraft is carrying out a “tour” of the Jovian system, during the course of which it will provide radio occultations by all of the **Galilean** satellites of Jupiter. By the end of the Galileo mission in October of 1997, Io (**J1**) will have occulted the spacecraft eight times, Europa (**J2**) three times, Ganymede (J3) four times , and **Callisto (J4)** once. The occultation of Europa in December, 1996, has produced evidence of a tenuous ionosphere , with a maximum electron density near the surface of about  $10^4 \text{ cm}^{-3}$  and a plasma scale height of about 200-300 km. If the neutral atmosphere consists of  $\text{H}_2\text{O}$  or  $\text{O}_2$ , This implies a maximum neutral density of about  $10^8 \text{ cm}^{-3}$  near the surface. By August of 1997 results will also be available from two more Europa occultations, an Io occultation, a Ganymede occultation, and possibly one of **Callisto**. These results will also be discussed in this paper. The research described in this paper has been conducted at the Jet Propulsion Laboratory, Stanford University, NASA Goddard Space Flight Center, and the University of Michigan with support from NASA contracts and grants.

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