Abstracts

Rings of Earth

R.M. Goldstein and L.W. Randolph. "Rings of Earth." 1992 Transactions on Microwave Theory and Techniques 40.6 (Jun. 1992 [T-MTT] (Special Issue on Microwaves in Space)): 1077-1080.

We have used the planetary radar at the Jet Propulsion Laboratorys Goldstone Tracking Station to monitor small particles of orbital debris. This radar can detect metallic objects as small as 1.8 mm in diameter at an altitude of 600 km. The results of our first set of observations show a flux (at 600 km) of 6.4 objects per sq km per day, of equivalent size of 1.8 mm or larger. Forty percent of the observed particles appear to be concentrated into one or two orbits. An orbital ring with the same inclination as the radar (35.1°, is suggested. However, an orbital band with the much higher inclination of 66° is also a possibility. Neither explanation is without difficulty.

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