Abstracts

Design Concepts of a 1-MW CW X-Band Transmit/ Receive System for Planetary Radar

A.J. Freiley, B.L. Conroy, D.J. Hoppe and A.M. Bhanji. "Design Concepts of a 1-MW CW X-Band Transmit/ Receive System for Planetary Radar." 1992 Transactions on Microwave Theory and Techniques 40.6 (Jun. 1992 [T-MTT] (Special Issue on Microwaves in Space)): 1047-1055.

The conceptual design of the 1-MW X-Band Transmit System for the Goldstone Solar System Radar represents the next step in the quest to expand planetary radar explorations. The radar transmitter requirements are summarized. The characteristics and expected performance of the major elements are discussed, including the klystrons, power amplifiers, microwave transmission lines, feed systems, beam power supply, heat exchanger, phase stable exciter, and the monitor/control system. An assessment of the technology development needed to meet the system requirements is given, and possible areas of difficulty are outlined.

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