

Abstracts

Low Noise Microwave Receiving Systems on a 64 m Antenna

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The performance capability at S-, X- and K-band of the NASA/JPL 64 m Cassegrain antenna at Goldstone, California, is reviewed. The multiple feed system allows X-and K-band atmospheric research studies to be conducted simultaneously with mission directed S-band spacecraft tracking. A description of the antenna system and its multiple operation is followed by gain and efficiency comparisons at the three frequencies. The total operating system temperature, and its frequency dependence, is presented and discussed. Antenna gain and efficiency, and zenith system operating temperature are summarized, at S- and X-band respectively, by 62 dB, 63%, 16K; and 72 dB, 52%, 24K. Preliminary measurements for K-band are 76 dB, 39%, 29K.

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