Abstracts

A High Performance - Wide Band - Diplexing - Tracking - Depolarization Correcting Satellite Communication Antenna Feed

A. Prata, Jr., E.A. Filho and S. Ghosh. "A High Performance - Wide Band - Diplexing - Tracking - Depolarization Correcting Satellite Communication Antenna Feed." 1985 MTT-S International Microwave Symposium Digest 85.1 (1985 [MWSYM]): 477-480.

A wide bandwidth diplexing feed system consisting of a pair of multihole corrugated directional couplers and a dual-depth corrugated horn, has been developed for satellite communication antenna applications. The feed has capacity to handle any arbitrary dual orthogonally polarized signals and to incorporate in dependent depolarization correction for these signals in the downlink and uplink. It shows a very good isolation between orthogonally polarized signals at each reused frequency over the recently allocated bands which extend from 3.4 to 4.2 GHz in the downlink and 5.85 to 6.775 GHz in the uplink for fixed satellite systems. Two modular devices which operate for high or low frequency beacon to extract difference modes for tracking purpose, are also described. Based on beacon allocation, the suitable module can be conveniently incorporated in the feed system without disturbing the electrical performances at the communication links.

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