Abstracts

Three-Port Disk Circulator Analysis Using Only Port Segmentation

K.M. Gaukel and E.-B. El-Sharawy. "Three-Port Disk Circulator Analysis Using Only Port Segmentation." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 925-927.

An accurate and numerically efficient analysis technique for analyzing tightly coupled three port disk circulators is presented. This numerical approach is unique in that only the ports are segmented. The port segments, or subports, are assumed connected just beyond the disk edge so that the port matrix reduces to the three-port matrix desired. The resulting analysis is found to be more accurate then the Bosma theory, yet the matrix size required is much smaller then the integral equation techniques presented in literature. The reduced matrix size results in faster swept frequency analysis, and faster iterative design algorithms.

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