Abstracts

A Least Squares Solution for Use in the Six-Port Measurement Technique (1980 [MWSYM])

G.F. Engen. "A Least Squares Solution for Use in the Six-Port Measurement Technique (1980 [MWSYM])." 1980 MTT-S International Microwave Symposium Digest 80.1 (1980 [MWSYM]): 440-441.

Because it permits the use of simple amplitude rather than complex ratio detectors, the six-port technique has captured the attention of the microwave community. Here, the determination of complex reflection coefficient, (Gamma) is obtained from the intersection of three circles, in the complex plane, whose radii are obtained from the amplitude detectors. As a practical matter, however, these circles will not intersect in a point because of measurement error. This paper addresses two questions: 1) How does one choose Gamma in this context, and 2) What can be inferred about the system accuracy from the extent of this intersection failure?

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