# Abstracts

## Analytical Asymmetry Parameters for Symmetrical Waveguide Junctions

*M. Cohen and W.K. Kahn. "Analytical Asymmetry Parameters for Symmetrical Waveguide Junctions." 1959 Transactions on Microwave Theory and Techniques 7.4 (Oct. 1959 [T-MTT]): 430-441.*

This paper presents a systematic approach to the evaluation of (waveguide) junctions from the standpoint of their conformance to certain symmetries. Preferred sets of asymmetry parameters are found which are complete, minimal in number, which go to zero when the junction represented is symmetrical, and which may often be identified with a corresponding structural symmetry defect. The asymmetry parameters are first introduced for general linear junctions, but special attention is given to reciprocal and lossless junctions. The derivation of these preferred sets is based on the theory of group representations hitherto employed in the analysis of ideally symmetric junctions. One of the applications of these preferred parameters yields first-order relations among the defects of a nearly perfect hybrid-T junction which are believed to be new.

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