Abstracts

Transient Analysis of Coupling Between Crossing Lines in Three-Dimensional Space (Short Papers)

S. Koike, N. Yoshida and I. Fukai. "Transient Analysis of Coupling Between Crossing Lines in Three-Dimensional Space (Short Papers)." 1987 Transactions on Microwave Theory and Techniques 35.1 (Jan. 1987 [T-MTT]): 67-71.

Coupling of crossing lines has not been studied extensively since it is very complicated and difficult to estimate. But recently with the development of high density wiring and large-scale integration rigorous analysis of coupling effects has become more important. In this analysis not only the electric and magnetic fields but also the Poynting vector are important. Especially, the variation of the spatial pattern of the Poynting vector in the time domain clarifies the dynamic coupling characteristics. In this paper the fundamental phenomena of coupling are demonstrated by considering the time variation of the distribution of the Poynting vector and the magnetic and electric fields for a Gaussian pulse in three-dimensional space.

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