Abstracts

Analysis of the propagation of leaky magnetostatic modes in normally magnetized microstrip and slot lines

R. Marques, R. Rafii-El-Idrissi, F. Mesa and F. Medina. "Analysis of the propagation of leaky magnetostatic modes in normally magnetized microstrip and slot lines." 2002 Transactions on Microwave Theory and Techniques 50.8 (Aug. 2002 [T-MTT]): 1935-1941.

The propagation of leaky forward magnetostatic (MS) volume waves along ferrite-loaded microstrip and slot lines is analyzed. This phenomenon is studied by means of a numerical approach based on the residue calculus technique because of its good numerical convergence and stability. The proposed method allows for a quick and accurate computation of the phase and attenuation constants of the leaky MS modes. A comparative analysis between both microstrip lines and slot lines is carried out, and some new physical effects, such as MS resonances in the radiation loss, are reported. The advantages of the proposed method of analysis over other numerical methods, such as Galerkin's or moment methods, are also discussed.

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