# Abstracts

## Synthesis of configuration of uniformly radiating longitudinal slots in the sections of nonregular rectangular waveguides

*M.V. Davidovich and V.P. Meschanov. "Synthesis of configuration of uniformly radiating longitudinal slots in the sections of nonregular rectangular waveguides." 1998 Transactions on Microwave Theory and Techniques 46.2 (Feb. 1998 [T-MTT]): 188-191.*

The integral-equation method has been applied along with perturbation theory to investigate the leaky-wave parameters of the fundamental mode in the regular waveguide with a narrow longitudinal slot on its broad wall, opened into shielded semispace. Then, the simple analytical formulas have been derived for the engineering synthesis of radiating elements (REs), which are formed by a nonuniform waveguide section with a nonregular slot on its broad wall. The long slot was cut in the longitudinal direction along certain curved or several connected broken lines, forming small local angles with the waveguide axis. The synthesis of RE's by single-mode approximation has been carried out for the condition of good uniformity of radiating electrical-field distribution along the RE axis near the slot. Good agreement of theoretical and experimental results was obtained.

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