Abstracts

Optimal shape design of passive device using FDTD and design sensitivity analysis

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In order to obtain broadband characteristics of passive microwave device, we propose an optimal shape design method in this paper. The proposed method utilizes the FDTD technique based on the design sensitivity analysis (DSA). In DSA, a sensitivity is evaluated by solving the adjoint variable equation derived from a terminal value problem using the FDTD method with proper terminal conditions. As a two-dimensional design example, an E-plane horn antenna is tested to show the validity of the proposed method.

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