Abstracts

Optimal shape design of dielectric structure using FDTD and topology optimization

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In this paper, an optimal design method based on the FDTD technique and the topology optimization is proposed. Topology Optimization is a scheme to search an optimal shape by adjusting the material properties of design space. And by introducing the adjoint variable method, we can effectively estimate a derivative of objective function with respect to design variable. In order to verify our method, a shape design problem of dielectric structure is tested in the TM/sup Z/ case. In this example, the permittivity density at each grid is taken as design variable.

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