Abstracts

A Local Mesh Refinement Algorithm for the FDFD Method Using a Polygonal Grid

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A local mesh refinement algorithm for the finite-difference method in the frequency domain (FDFD) is presented that is based on polygonal grids. It is applied to a simple test structure for which the propagation parameters were computed with a mode-matching method as a reference. It is shown that the local mesh refinement realized with this polygonal grid significantly improves the accuracy of the propagation constant compared to the conventional FD method based on rectangular meshes.

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