# Abstracts

## Envelope-finite element (EVFE) technique - 2-D guided wave examples

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A novel full-wave technique, called EVFE method, is proposed to simulate the time-domain envelopes of electromagnetic waves. Based on finite element method (FEM) solutions, EVFE method introduces the circuit envelope simulation concept into electromagnetics the first time. Compared to traditional time-domain simulation techniques such as FDTD or FETD methods, only the signal envelope needs to be sampled in EVFE simulation. Therefore it can bring magnitudes of computation savings when it is applied to the cases where signal envelope/carrier ratios are very small. In this paper, 2-D microwave guided-wave examples are presented as proof of concepts.

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