Abstracts

Time domain field synthesis with 3D symmetric condensed node TLM

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A novel time domain field synthesis approach based on 3D symmetric condensed node TLM will be described. The field distribution on the designable boundary parts is determined through a traditional TLM analysis of a starting geometry. Designable parameters are associated with a set of characteristic frequencies of the structure. The desirable values of these frequencies are determined using design specifications in the form of an equivalent lumped element circuit. A synthesis phase is then carried out for each parameter, during which the associated boundary parts are replaced by matched sinusoidal sources with the desirable value of the associated characteristic frequency. The designable parameter value is determined by observing the envelope of the standing electric/magnetic field pattern.

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