Abstracts

Frequency parameterization of open structures by modal decomposition using finite elements and spherical modes

Y. Adane, A. Gati, M.F. Wong and V.F. Hanna. "Frequency parameterization of open structures by modal decomposition using finite elements and spherical modes." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 2017-2020 vol.3.

This paper presents an extension of the modal decomposition technique for the frequency parameterization of open structures. Modal decomposition based on the computation of the poles and modes of 3D geometries allows us to achieve broadband characterization of a microwave structure. So far, the technique is restricted to closed structures. With the help of spherical modes for the outer region of open structures, full-wave 3D models parameterized in frequency can be obtained. These models can be derived efficiently from a few rigorous computations at given frequencies using the finite-element method.

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