Abstracts

Computation of resonant frequencies and quality factors of cavities by FDTD technique and Pade approximation

Wei-Hua Guo, Wei-Jun Li and Yong-Zhen Huang. "Computation of resonant frequencies and quality factors of cavities by FDTD technique and Pade approximation." 2001 Microwave and Wireless Components Letters 11.5 (May 2001 [MWCL]): 223-225.

The finite-difference time domain (FDTD) technique and the Pade approximation with Baker's algorithm are used to calculate the mode frequencies and quality factors of cavities. Comparing with the fast Fourier transformation/Pade method, we find that the Pade approximation and the Baker's algorithm can obtain exact resonant frequencies and quality factors based on a much shorter time record of the FDTD output.

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