Abstracts

An iterative algorithm for reducing dispersion error on Yee's mesh in cylindrical coordinates

M. Rewienski and M. Mrozowski. "An iterative algorithm for reducing dispersion error on Yee's mesh in cylindrical coordinates." 2000 Microwave and Guided Wave Letters 10.9 (Sep. 2000 [MGWL]): 353-355.

The authors present an iterative algorithm for reducing the error due to numerical dispersion while using the finite difference frequency domain (FDFD) scheme on Yee's mesh in cylindrical coordinates. It is shown that the algorithm allows one to significantly enhance the accuracy of the results over a limited frequency band. Consequently, the algorithm provides a cost effective way of achieving high accuracy in the finite difference numerical analysis of such problems as computing resonant frequencies of empty and loaded resonators with cylindrical symmetry.

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