Abstracts

New Prospects for Time Domain Analysis (Comments and Authors' Reply)

W.Y. Tam, M. Krumpholz and L.P.B. Katehi. "New Prospects for Time Domain Analysis (Comments and Authors' Reply)." 1996 Microwave and Guided Wave Letters 6.11 (Nov. 1996 [MGWL]): 422-424.

In the above letter, a new multiresolution time-domain scheme (S-MRTD) was applied to reduce the Maxwell's equations into difference equations using the method of moments with cubic spline Battle-Lemarie scaling functions. Their results showed that a highly linear dispersion characteristic was achieved when it is compared with the Yee's finite-difference time-domain (FDTD) scheme. I would like to point out, however, that the second-order accuracy finite-difference approximation is used in the Yee's scheme and the new scheme employs the form similar to the eighteenth-order accuracy approximation so that we have to compare the new scheme with the higher-order accuracy Yee's FDTD scheme. For simplicity, only the wave propagating in the x-direction with y-directed electric field is considered.

❑ Return to main document.