Abstracts

A Comparison of the Berenger Perfectly Matched Layer and the Lindman Higher-Order ABC's for the FDTD Method

W.V. Andrew, C.A. Balanis and P.A. Tirkas. "A Comparison of the Berenger Perfectly Matched Layer and the Lindman Higher-Order ABC's for the FDTD Method." 1995 Microwave and Guided Wave Letters 5.6 (Jun. 1995 [MGWL]): 192-194.

Higher-order absorbing boundary conditions are compared to the recently introduced Berenger perfectly matched layer (PML) absorbing boundary conditions (ABC). Reflections caused by the ABC's are examined in both the time and frequency domains for the case of a line source radiating in a finite computational domain. It is shown that the PML ABC significantly reduces reflections from the truncation of the computational grid when compared to 7th order Lindman ABC's. Also, except for at low frequencies, higher-order absorbing boundary conditions are no better than 2nd order Mur absorbing boundaries.

❑ Return to main document.