Abstracts

Closed-Form Expressions for Coefficients Used in FD-TD High-Order Boundary Conditions

K. McInturff and P.S. Simon. "Closed-Form Expressions for Coefficients Used in FD-TD High-Order Boundary Conditions." 1993 Microwave and Guided Wave Letters 3.7 (Jul. 1993 [MGWL]): 222-223.

Tirkas et al. recently presented an algorithm to implement absorbing boundary conditions (ABC's) of arbitrarily high order into the finite difference-time domain technique. However, they did not provide explicit formulas to determine the expansion coefficients used in the Pade approximations of the pseudo-differential operator. Instead, the user is required to determine the roots of a polynomial using numerical methods that require computational effort and yield only approximate results. Exact expressions for the desired coefficients that are valid for Pade expansions of any order are presented.

❑ Return to main document.