Abstracts

A Fast Recursive Highly Dispersive Absorbing Boundary Condition Using Time Domain Diakoptics and Laguerre Polynomials

M. Mrozowski, M. Niedzwiecki and P. Suchomski. "A Fast Recursive Highly Dispersive Absorbing Boundary Condition Using Time Domain Diakoptics and Laguerre Polynomials." 1995 Microwave and Guided Wave Letters 5.6 (Jun. 1995 [MGWL]): 183-185.

The contribution presents a new implementation of the absorbing boundary condition for structures where traditional ABC's perform poorly because of high dispersion. The proposed approach consists in the application of time domain diakoptics combined with the expansion of the impulse response into series of Laguerre polynomials. The application of Laguerre polynomials allows fast recursive calculation of the convolutions required by diakoptics. The numerical cost associated with this approach is significantly lower than in currently used time diakoptics schemes.

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