Abstracts

On the Utilization of Periodic Wavelet Expansions in the Moment Methods (Short Papers)

G. Wang. "On the Utilization of Periodic Wavelet Expansions in the Moment Methods (Short Papers)." 1995 Transactions on Microwave Theory and Techniques 43.10 (Oct. 1995 [T-MTT]): 2495-2498.

In this short paper, a new wavelet approach that makes use of periodic wavelet expansions in the moment methods is presented. The unknown field or response is expanded in terms of the periodic wavelet functions. As a wavelet expansion method, the moment-method matrix is rendered sparsely populated after applying a threshold procedure. Moreover, this approach circumvents the difficulties in the application of the conventional wavelet expansions on the real line to finite interval problems. Numerical study shows that this approach gives better accuracy than the use of the conventional wavelet expansions on the whole real line.

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