Abstracts

Stationary Phase Monte Carlo Path Integral Analysis of Electromagnetic Wave Propagation in Graded-Index Waveguides

C. Huang, Z. Wu and R.D. Nevels. "Stationary Phase Monte Carlo Path Integral Analysis of Electromagnetic Wave Propagation in Graded-Index Waveguides." 1994 Transactions on Microwave Theory and Techniques 42.9 (Sep. 1994, Part I [T-MTT]): 1709-1714.

The stationary phase Monte Carlo (SPMC) path integral method is applied to analyze electromagnetic wave propagation in transversely inhomogeneous media. A filter, which gives a stable result with respect to various Monte Carlo parameters and thus overcomes the difficulties previously associated with the multi-dimensional SPMC technique, is constructed to evaluate the propagation field. Numerical results are presented for a graded-index waveguide, and are in good agreement with those obtained by another independent path integral approach, viz., the split-step method.

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