# Abstracts

## The Solution of Electromagnetic Eigenvalue Problems by Least Squares Boundary Residuals (Short Papers)

*H.J.A. LaRiviere and J.B. Davies. "The Solution of Electromagnetic Eigenvalue Problems by Least Squares Boundary Residuals (Short Papers)." 1975 Transactions on Microwave Theory and Techniques 23.5 (May 1975 [T-MTT]): 436-441.*

The least squares boundary residual technique as used for the numerical solution of scattering problems is extended to the solution of electromagnetic eigenvalue problems. The theory is described and numerical results are given for the solution of an L-shaped membrane and microstrip in a hollow conducting guide. The microstrip example was chosen as a test case to compare with Fourier matching. This least square error minimization technique is of the same family as point matching and Fourier matching; however, it is shown to have three potentially important advantages: 1) it is rigorously convergent, 2) the choice of optimum weighting factors greatly accelerates convergence between a decreasing upper bound and an increasing lower bound, and 3) it is free from problems of relative convergence.

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