Abstracts

A Least-Squares Boundary Residual Method for the Numerical Solution of Scattering Problems

An explicit least-squares criterion is put forward as an alternative to the point-matching method of numerically solving scattering problems. While being an established method of functional approximation, it has been largely ignored in numerical approaches to electromagnetic scattering. In contrast to point matching, the least-squares approach has a rigorous proof of convergence. An electric/magnetic weighting factor is found useful in optmizing convergence. Finally, it allows use of perhaps the fastest and most compact matrix inversion algorithm.

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