

## A hybrid aggressive space mapping algorithm for EM optimization

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*M.H. Bakr, J.W. Bandler, N. Georgieva and K. Madsen. "A hybrid aggressive space mapping algorithm for EM optimization." 1999 MTT-S International Microwave Symposium Digest 99.1 (1999 Vol. 1 [MWSYM]): 265-268 vol. 1.*

We present a novel, hybrid aggressive space mapping (HASM) optimization algorithm. HASM is a hybrid approach exploiting both the trust region aggressive space mapping (TRASM) algorithm and direct optimization. It does not assume that the final space-mapped design is the true optimal design and is robust against severe misalignment between the coarse and the fine models. The algorithm is based on a novel lemma that enables smooth switching from the TRASM optimization to direct optimization and vice versa. The new algorithm has been tested on several microwave filters and transformers.

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