Abstracts

EM-based optimization exploiting partial space mapping and exact sensitivities (2002 Vol. III [MWSYM])

J.W. Bandler, A.S. Mohamed, M.H. Bakr, K. Madsen and J. Sondergaard. "EM-based optimization exploiting partial space mapping and exact sensitivities (2002 Vol. III [MWSYM])." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 2101-2104 vol.3.

We present a family of robust techniques for exploiting sensitivities in EM-based circuit optimization through Space Mapping (SM). We utilize derivative information for parameter extractions and mapping updates. We exploit a Partial Space Mapping (PSM) concept where a reduced set of parameters is sufficient for parameter extraction optimization. Upfront gradients of both EM (fine) model and coarse surrogates can Initialize possible mapping approximations. Illustrations include a two-section 10:1 impedance transformer and a microstrip bandstop filter.

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