

Abstracts

A fast and rigorous synthesis procedure for (monolithic) millimeterwave integrated circuit layout

M.O. Thieme and E.M. Biebl. "A fast and rigorous synthesis procedure for (monolithic) millimeterwave integrated circuit layout." 1997 MTT-S International Microwave Symposium Digest 2. (1997 Vol. II [MWSYM]): 1009-1012.

A new versatile and efficient procedure for designing (monolithic) millimeterwave integrated circuits is presented. It is based on a novel supergrid method (SGM). The advantage of this new method is the integration of a MoM simulation and a simplex optimization scheme, which saves 80% of computation time and up to 90% of computer memory. Thus, workstations and PCs instead of supercomputers can be used for the synthesis of complex millimeterwave integrated circuit and antenna layouts. To demonstrate the capability of the method, a novel circularly polarized (CP) integrated W-band detector antenna was designed and experimentally characterized.

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