Abstracts

Large-domain MOM solution of complex electromagnetic problems

A numerical method is presented for the analysis and design of a wide variety of electromagnetic structures consisting of dielectric and conducting parts of arbitrary shapes. The method is based on the integral-equation formulation in frequency domain, and represents a large-domain (high-order expansion) Galerkin-type version of the method of moments (MOM). The method is formulated in two versions concerning the type of the equivalence (volume and surface) utilized in the treatment of the dielectric parts of the structure. It is demonstrated on two unconventional examples that a well designed and carefully optimized moment-method can be a highly efficient and reliable tool for numerical solutions of real-world problems.

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