Abstracts

On the evaluation of the double surface integrals arising in the application of the boundary integral method to 3-D problems

P. Arcioni, M. Bressan and L. Perregrini. "On the evaluation of the double surface integrals arising in the application of the boundary integral method to 3-D problems." 1997 Transactions on Microwave Theory and Techniques 45.3 (Mar. 1997 [T-MTT]): 436-439.

In this paper, the authors discuss how to minimize the computing time for the evaluation of the double surface integrals arising in the application of the boundary integral method (BIM) to three-dimensional (3-D) problems. The integrals considered refer to the Green's functions for the scalar and vector potentials and to uniform or linear basis and test functions defined over triangular sub-domains. The authors report original analytical formulas for the double surface integrals over coincident triangles involving the singular terms of the Green's functions and present a criterion for obtaining a good compromise between accuracy and computing time in numerical integration.

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