Abstracts

Differential formulation of on-surface measured equation of invariance for 2-D conducting scatterings

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In this letter formulations of on-surface measured equation of invariance (OSMEI) method for two-dimensional (2-D) conducting scatterings are derived from scalar wave equations rather than integral equations. At the same time, the MEI equations for TM and TE cases are proved to be same. As long as one of the MEI equations of the above two cases is found, the MEI equation of another case is automatically given. A great advantage of the OSMEI method over the conventional boundary integration or differential equation method is that the OSMEI can solve conducting scattering problems efficiently. Examples of conducting circular and rectangular cylinder scatterings for both TM and TE case show that results of the OSMEI are in excellent agreement with those of the method of moments (MoM).

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