

INTEGRAL FORMULATION OF THE SECOND KIND FOR MULTI-SUBDOMAIN SCATTERING

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We study the scattering of an acoustic wave by an object made of several adjacent sub-domains associated to different material characteristics. For this problem we derive an integral formulation of the second kind. This formulation only involves one Dirichlet datum and one Neumann datum at each point of each interface of the diffracting object, so that our formulation can be considered to belong to the same family as the formulation of the first kind that was derived by von Petersdorff for scalar problems and by Buffa for Maxwells equations.