

AN ITERATIVE METHOD FOR A FOURTH ORDER TRANSMISSION PROBLEM

NICOLAE VALENTIN PĂPARĂ

Abstract. We pursue a constructive solution to a fourth order transmission problem on a planar domain. We use an iterative technique that reduces the fourth order partial differential equations to second order Helmholtz-type equations. We use the layer potentials to solve the second order transmission problems. The methods that we use are suitable for numerical computations. This work is inspired by recent papers regarding the use of iterative methods for Neumann biharmonic problems, Robin problems and mixed problems.

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Key words. Iterative method, biharmonic equation, transmission problem, Helmholtz equation, single layer potential.

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Babeş-Bolyai University
Faculty of Mathematics and Computer Science
1 M. Kogălniceanu St.
400084 Cluj-Napoca, Romania
E-mail: nvpapara@hotmail.com