Decomposition Method for Solving a Boundary Value Problem for Biharmonic Equation

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Abstract: In this report we consider a decomposition method for solving the Dirichlet boundary value problem for biharmonic equation in a complicated bounded domain consisting of some rectangles. The problem is reduced to a sequence of mixed boundary value problems for second order equations, which are solved by the method of complete reduction after discretization. The convergence of the method is studied and some numerical experiments are performed to demonstrate the effectiveness of the method.

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