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On a boundary value problem for non-linear complex partial differential equations in the upper half plane

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Abstract

We consider non-linear elliptic complex partial differential equations with Schwarz boundary conditions in the upper half plane. Using the integral representation formulas for the solutions of the model equations, some classes of singular integral operators are introduced together with some of their properties. Such operators are used in transforming the boundary value problem into an integro-differential system and then solvability of the problem is discussed.