

A Schwarz Problem For The Generalized Beltrami Equation

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Abstract

This talk deals with the Schwarz problem

$$w_{\bar{z}} = A(z)w_z + B(z)\bar{w}_{\bar{z}} + C(z)w + D(z)\bar{w} + E(z) \quad \text{in } \Omega,$$

$$\Re w(z) = g(z), \quad z \in \partial\Omega$$

$$\Im w(z_0) = c, \quad z_0 \in \bar{\Omega},$$

where Ω is a regular domain of the complex plane. Sufficient conditions on the coefficients of the differential equation are obtained under which the operator of the corresponding problem for a system of integral equations is contractive in a certain Hölder space. This leads to the existence of a unique solution of the original problem.