

# BOUNDARY VALUE PROBLEMS FOR THE BITSADZE EQUATION ON A QUARTER PLANE

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## ABSTRACT

This study investigates boundary value problems for the Bitsadze equation defined on a quarter plane. The Bitsadze equation, a fundamental partial differential equation in the theory of analytic functions, often appears in complex analysis and mathematical physics. We consider specific boundary conditions that are either Dirichlet or Schwarz types on the respective edges of the quarter plane. By employing the method of integral transforms, we reduce the problem to a system of integral equations. The solvability of these equations is analyzed using analysis techniques. We further explore the uniqueness and existence of the solutions under different boundary conditions.

**Keywords** Bitsadze equation, quarter plane, Dirichlet problem, Schwarz problem

## References

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