

ON OBTAINING STABLE SOLUTION FOR A HYPERBOLIC  
COEFFICIENT CONTROL PROBLEM

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## Abstract

This study deals with obtaining a solution for the hyperbolic coefficient control problem. The set of admissible controls has been taken as a subspace of the space whose elements and their first generalized derivatives are square integrable functions. Obtaining the gradient of the cost functional and proving the Lipschitz continuity on this set, the necessary condition for optimal solution has been given.

**Keywords:** Optimal Control, Second-Order Hyperbolic Equations, Frechet Differentiability.

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