
Determination of the Explicit Analytical Types of the Optimal Boundary Controls of the String Vibration Process

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For different boundary control problems an explicit analytical type of optimal boundary control is obtained in terms of the generalized solution of the wave equation from the class that allows the existence of final energy. This solution minimizes the integral of the boundary energy under the conditions of connection following from satisfaction of the given initial and final conditions, and under the conditions of agreement of the initial and final conditions.

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