



# Existence and Uniqueness of Solutions of Strongly Damped Wave Equations with Integral Boundary Conditions

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**Abstract:** In this work, we consider a strongly damped wave equation with integral boundary conditions. We apply the method of semi-discretization in time, also known as the method of lines, to establish the existence and uniqueness of a weak solution.

**Keywords:** *method of lines; strongly damped wave equation equation; integral boundary conditions; weak solution.*

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