

Well-Posedness of solutions for a wave equation with internal distributed delay

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Abstract – In this study, a wave equation with internal distributed delay and a bounded domain are taken into consideration. Under some appropriate circumstances, the solution's existence and uniqueness are established. In addition, we demonstrate the existence and uniqueness of the problem's solution using semigroup theory, and we establish a time estimate for the explosion of the problem's solutions in Sobolev spaces using H. Levine's concavity theorem.

Keywords – Wave Equation, Bounded Domain, Well Posedness, Internal Distributed Delay.
