

Decay properties for evolution-parabolic coupled systems related to thermoelastic plate equations

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Abstract

In this paper, we consider the Cauchy problem for a family of evolution-parabolic coupled systems, which are related to the classical thermoelastic plate equations containing non-local operators. By using diagonalization procedure and WKB analysis, we derive representation of solutions in the phase space. Then, sharp decay properties in a framework of L^p - L^q are investigated via these representations. Particularly, some thresholds for the regularity-loss type decay properties are found.

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