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Time discretization of an abstract problem from linearized equations of a coupled sound and heat flow. (English) Zbl 1450.35015

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Summary: Recently, a time discretization of simultaneous abstract evolution equations applied to parabolic-hyperbolic phase-field systems has been studied. This article focuses on a time discretization of an abstract problem that has application to linearized equations of coupled sound and heat flow. As examples, we also study some parabolic-hyperbolic phase-field systems.

MSC:

35A35 Theoretical approximation in context of PDEs
35K90 Abstract parabolic equations
35L90 Abstract hyperbolic equations
47J35 Nonlinear evolution equations
65M15 Error bounds for initial value and initial-boundary value problems involving PDEs

Keywords:

simultaneous evolution equations; lcoupled sound and heat flow; time discretization; error estimate; parabolic-hyperbolic systems

Full Text: Link

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