Hoffmann, Karl-Heinz; **Kenmochi, Nobuyuki**; **Kubo, Masahiro**; **Yamazaki, Noriaki**
Optimal control problems for models of phase-field type with hysteresis of play operator.
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In this paper the authors consider optimal control problems for models of phase-field type with hysteresis of play operator. The system which is analysed consists of two parabolic PDEs: the heat equation and the kinetic equation of an order parameter with linear double obstacles depending also on the temperature. The authors prove the existence of an optimal source control for the system and show the relationship between the control problem and its approximation; in addition they give a necessary condition for an optimal control of the original problem using one of the approximate problems.

Reviewer: Michela Eleuteri (MR2337381)

MSC:

49J20	Existence theories for optimal control problems involving partial differential equations
35K51	Initial-boundary value problems for second-order parabolic systems
47J40	Equations with nonlinear hysteresis operators
49K20	Optimality conditions for problems involving partial differential equations
80A22	Stefan problems, phase changes, etc.