1.	Record Nr.	UNISA996466593203316
	Autore	Brokate Martin <1953->
	Titolo	Phase transitions and hysteresis : lectures given at the 3rd session of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Montecatini Terme, Italy, July 13-21, 1993 / / M. Brokate [and four others]
	Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer-Verlag, , [1994] ©1994
	ISBN	3-540-48678-X
	Edizione	[1st ed. 1994.]
	Descrizione fisica	1 online resource (VIII, 296 p.)
	Collana	Lecture Notes in Mathematics ; ; 1584
	Altri autori (Persone)	BrokateMartin <1953-> VisintinA (Augusto)
	Disciplina	515.353
	Soggetti	Differential equations, Parabolic Boundary value problems Phase transformations (Statistical physics)
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Bibliographic Level Mode of Issuance: Monograph
	Nota di contenuto	Hysteresis operators -- Systems of nonlinear PDEs arising from dynamical phase transitions -- Quasiplasticity and pseudoelasticity in shape memory alloys -- Variational methods in the stefan problem -- Numerical aspects of parabolic free boundary and hysteresis problems.
	Sommario/riassunto	1) Phase Transitions, represented by generalizations of the classical Stefan problem. This is studied by Kenmochi and Rodrigues by means of variational techniques. 2) Hysteresis Phenomena. Some alloys exhibit shape memory effects, corresponding to a stress-strain relation which strongly depends on temperature; mathematical physical aspects are treated in Müller's paper. In a general framework, hysteresis can be described by means of hysteresis operators in Banach spaces of time dependent functions; their properties are studied by Brokate. 3) Numerical analysis. Several models of the phenomena above can be formulated in terms of nonlinear parabolic equations. Here Verdi deals with the most updated approximation techniques.