1. Record Nr. UNINA9910144601903321

Autore	Bildhauer Michael
Titolo	Convex Variational Problems : Linear, nearly Linear and Anisotropic Growth Conditions / / by Michael Bildhauer
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2003
ISBN	3-540-44885-3
Edizione	[1st ed. 2003.]
Descrizione fisica	1 online resource (XII, 220 p.)
Collana	Lecture Notes in Mathematics, , 0075-8434 ; ; 1818
Disciplina	515.64
Soggetti	Calculus of variations Differential equations, Partial Calculus of Variations and Optimal Control; Optimization Partial Differential Equations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references (pages [207]-213) and index.
Nota di contenuto	1. Introduction -- 2. Variational problems with linear growth: the general setting -- 3. Variational integrands with ($,\mu ,q$)-growth -- 4. Variational problems with linear growth: the case of $\mu $-elliptic integrands -- 5. Bounded solutions for convex variational problems with a wide range of anisotropy -- 6. Anisotropic linear/superlinear growth in the scalar case -- A. Some remarks on relaxation -- B. Some density results -- C. Brief comments on steady states of generalized Newtonian fluids -- D. Notation and conventions -- References -- Index.
Sommario/riassunto	The author emphasizes a non-uniform ellipticity condition as the main approach to regularity theory for solutions of convex variational problems with different types of non-standard growth conditions. This volume first focuses on elliptic variational problems with linear growth conditions. Here the notion of a "solution" is not obvious and the point of view has to be changed several times in order to get some deeper insight. Then the smoothness properties of solutions to convex anisotropic variational problems with superlinear growth are studied. In spite of the fundamental differences, a non-uniform ellipticity condition serves as the main tool towards a unified view of the regularity theory for both kinds of problems.