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Titolo	Abelian Varieties over the Complex Numbers [[electronic resource]] : A Graduate Course // by Herbert Lange
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Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (XII, 384 p. 1 illus.)
Collana	Grundlehren Text Editions, , 2627-5260
Disciplina	516.35
Soggetti	Algebraic geometry Projective geometry Functions of complex variables Number theory Algebraic Geometry Projective Geometry Functions of a Complex Variable Number Theory Varietats abelianes Nombres complexos Llibres electrònics
Lingua di pubblicazione	Inglese
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Nota di contenuto	1. Line Bundles on Complex Tori -- 2 Abelian Varieties -- 3 Moduli Spaces -- 4 Jacobian Varieties -- 5 Main Examples of Abelian Varieties -- 6 The Fourier Transform for Sheaves and Cycles -- 7 Introduction to the Hodge Conjecture for Abelian Varieties.
Sommario/riassunto	This textbook offers an introduction to abelian varieties, a rich topic of central importance to algebraic geometry. The emphasis is on geometric constructions over the complex numbers, notably the construction of important classes of abelian varieties and their algebraic cycles. The book begins with complex tori and their line bundles (theta functions), naturally leading to the definition of abelian varieties. After establishing basic properties, the moduli space of

abelian varieties is introduced and studied. The next chapters are devoted to the study of the main examples of abelian varieties: Jacobian varieties, abelian surfaces, Albanese and Picard varieties, Prym varieties, and intermediate Jacobians. Subsequently, the Fourier–Mukai transform is introduced and applied to the study of sheaves, and results on Chow groups and the Hodge conjecture are obtained. This book is suitable for use as the main text for a first course on abelian varieties, for instance as a second graduate course in algebraic geometry. The variety of topics and abundant exercises also make it well suited to reading courses. The book provides an accessible reference, not only for students specializing in algebraic geometry but also in related subjects such as number theory, cryptography, mathematical physics, and integrable systems.
