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	Disciplina	005.717 003.54
	Soggetti	Computer science - Mathematics Coding theory Information theory Commutative algebra Commutative rings Mathematical Applications in Computer Science Coding and Information Theory Commutative Rings and Algebras
	Lingua di pubblicazione	Inglese
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	Livello bibliografico	Monografia
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Euclidean Plane -- Sphere -- Stereographic Projection and Inversions -- Hyperbolic Plane -- Lorentz-Minkowski Plane -- Geometry of Special Relativity -- Answers to Selected Exercises -- Index.
	Sommario/riassunto	This textbook provides a rigorous mathematical perspective on error-correcting codes, starting with the basics and progressing through to the state-of-the-art. Algebraic, combinatorial, and geometric approaches to coding theory are adopted with the aim of highlighting how coding can have an important real-world impact. Because it carefully balances both theory and applications, this book will be an indispensable resource for readers seeking a timely treatment of error-correcting codes. Early chapters cover fundamental concepts, introducing Shannon's theorem, asymptotically good codes and linear codes. The book then goes on to cover other types of codes including

chapters on cyclic codes, maximum distance separable codes, LDPC codes, p-adic codes, amongst others. Those undertaking independent study will appreciate the helpful exercises with selected solutions. A Course in Algebraic Error-Correcting Codes suits an interdisciplinary audience at the Masters level, including students of mathematics, engineering, physics, and computer science. Advanced undergraduates will find this a useful resource as well. An understanding of linear algebra is assumed.