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Edizione	[1st ed.]
Descrizione fisica	1 online resource (323 p.)
Altri autori (Persone)	JohnstonMartin <1977->
Disciplina	005.7/2
Soggetti	Error-correcting codes (Information theory) Wireless communication systems Data transmission systems Computer storage devices Analog electronic systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Information, channel capacity and channel modelling -- Basic principles of non-binary codes -- Non-binary block codes -- Algebraic-geometric codes -- List decoding -- Non-binary low density parity check codes -- Non-binary convolutional codes -- Non-binary turbo codes.
Sommario/riassunto	"Non-Binary Error Control Coding for Wireless Communication and Data Storage explores non-binary coding schemes that have been developed to provide an alternative to the Reed-Solomon codes, which are expected to become unsuitable for use in future data storage and communication devices as the demand for higher data rates increases. This book will look at the other significant non-binary coding schemes, including non-binary block and ring trellis-coded modulation (TCM) codes that perform well in fading conditions without any expansion in bandwidth use, and algebraic-geometric codes which are an extension of Reed-Solomon codes but with better parameters. Key Features: Comprehensive and self-contained reference to non-binary error

control coding starting from binary codes and progressing up to the latest non-binary codes; Explains the design and construction of good non-binary codes with descriptions of efficient non-binary decoding algorithms with applications for wireless communication and high-density data storage; Discusses the application to specific cellular and wireless channels, and also magnetic storage channels that model the reading of data from the magnetic disc of a hard drive; Includes detailed worked examples for each coding scheme to supplement the concepts described in this book; Focuses on the encoding, decoding and performance of both block and convolutional non-binary codes, and covers the Kotter-Vardy algorithm and Non-binary LDPC codes."--Publisher's description.