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Titolo	Basic Principles of Concrete Structures [[electronic resource] /] / by Xianglin Gu, Xianyu Jin, Yong Zhou
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Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (XXII, 606 p. 397 illus., 13 illus. in color.)
Disciplina	693.5
Soggetti	Buildings—Design and construction Building Construction Engineering, Architectural Mechanics Mechanics, Applied Computer-aided engineering Building Construction and Design Solid Mechanics Computer-Aided Engineering (CAD, CAE) and Design
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Introduction -- Mechanical Properties of Concrete and Steel Reinforcement -- Bond and Anchorage -- Tension and Compression Behavior of Axially Loaded Members -- Bending Behavior of Flexural Members -- Compression and Tension Behavior of Eccentrically Loaded Members -- Shear -- Torsion -- Punching Shear and Bearing -- Prestressed Concrete Structures -- Serviceability of Concrete Structures -- Durability of Concrete Structures.
Sommario/riassunto	Based on the latest version of designing codes both for buildings and bridges (GB50010-2010 and JTG D62-2004), this book starts from steel and concrete materials, whose properties are very important to the mechanical behavior of concrete structural members. Step by step, analysis of reinforced and prestressed concrete members under basic loading types (tension, compression, flexure, shearing and torsion) and

environmental actions are introduced. The characteristic of the book that distinguishes it from other textbooks on concrete structures is that more emphasis has been laid on the basic theories of reinforced concrete and the application of the basic theories in design of new structures and analysis of existing structures. Examples and problems in each chapter are carefully designed to cover every important knowledge point. As a basic course for undergraduates majoring in civil engineering, this course is different from either the previously learnt mechanics courses or the design courses to be learnt. Compared with mechanics courses, the basic theories of reinforced concrete structures cannot be solely derived by theoretical analysis. And compared with design courses, this course emphasizes the introduction of basic theories rather than simply being a translation of design specifications. The book will focus on both the theoretical derivations and the engineering practices.
