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Titolo	Stability Assessment for Underground Excavations and Key Construction Techniques // by Hanhua Zhu, Mengchong Chen, Yu Zhao, Fusheng Niu
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Disciplina	620
Soggetti	Engineering geology Engineering—Geology Foundations Hydraulics Mechanics Mechanics, Applied Transportation engineering Traffic engineering Geoengineering, Foundations, Hydraulics Classical Mechanics Theoretical and Applied Mechanics Transportation Technology and Traffic Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Theories and design principles for underground excavation -- Key techniques to maintain stability of underground excavation -- Tunneling in the soil-rock-mixed strata -- Tunneling beneath operating roads -- Stability control for underwater tunnels -- Stability of tunnel pit excavation.
Sommario/riassunto	This book examines how the state of underground structures can be determined with the assistance of force, deformation and energy. It then analyzes mechanized shield methods, the New Austrian tunneling method (NATM) and conventional methods from this new perspective. The book gathers a wealth of cases reflecting the experiences of

practitioners and administrators alike. Based on statistical and engineering studies of these cases, as well as lab and field experiments, it develops a stability assessment approach incorporating a stable equilibrium, which enables engineers to keep the structure and surrounding rocks safe as long as the stable equilibrium and deformation compliance are maintained. The book illustrates the implementation of the method in various tunneling contexts, including soil-rock mixed strata, tunneling beneath operating roads, underwater tunnels, and tunnel pit excavation. It offers a valuable guide for researchers, designers and engineers, especially those who are seeking to understand the underlying principles of underground excavation.
