

1. Record Nr.	UNINA9910726278603321
Autore	Li Shucaï
Titolo	Hazard-causing System and Assessment of Water and Mud Inrush in Tunnel // by Shucaï Li, Zhenhao Xu, Xin Huang, Yuchao Du
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2023
ISBN	9789811995231 9789811995224
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (415 pages)
Altri autori (Persone)	XuZhenhao HuangXin DuYuchao
Disciplina	624.151
Soggetti	Geotechnical engineering Engineering geology Natural disasters Environmental management Geotechnical Engineering and Applied Earth Sciences Geoengineering Natural Hazards Environmental Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Foreword -- Chapter 1 Introduction -- Chapter 2 Classification and geological identification of hazard-causing system for water and mud inrush in tunnel -- Chapter 3 Typical cases and analysis of water and mud inrush in tunnel -- Chapter 4 Route selection of tunnel in karst area -- Chapter 5 Interval dynamic risk assessment of water and mud rush in tunnel construction -- Chapter 6 Resistance body assessment method against water and mud inrush in tunnel -- Chapter 7 Identification method of water and mud inrush hazard-causing system in tunnel -- Chapter 8 Dynamic management and analysis platform of water and mud inrush cases in tunnel -- References -- Appendix.
Sommario/riassunto	This book is composed of eight chapters, introducing the authors' research and application achievements in the hazard-causing system

and disaster evaluation of water and mud inrush in tunnels over the past 10 years. Through a large number of case studies and analysis, and on the basis of existing research, this book puts forward 3 categories and 11 types of tunnel water and mud inrush hazard-causing systems and 4 typical water and mud inrush disaster-forming modes. The authors carefully study the typical cases of tunnel water and mud inrush hazard-causing system, discuss the types of karst water system, structural characteristics, macro-geological identification, engineering identification, karst tunnel route selection principles and evaluation methods in detail, and then develop a dynamic evaluation method of tunnel water and mud inrush construction risk interval and an evaluation method for the resistance body. Ultimately, the authors put forward a systematic identification method of tunnel water and mud inrush disaster, which integrates geological identification, geophysical exploration identification, and drilling identification, and construct a dynamic management and analysis platform for tunnel water and mud inrush cases. This book is used as a reference book for teachers, graduate students, and undergraduates in colleges and universities of civil engineering, transportation, water conservancy and hydropower, mining, geology, etc., and also as a reference for technicians in related engineering fields.

---