Record Nr. UNINA9910595039703321 Autore Meng Dan Titolo Prediction and Control of Interaction Between Ground Building and Tunnel Construction Process / / by Dan Meng, Changfeng Yuan, Guangming Yu Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2022 Pubbl/distr/stampa **ISBN** 981-19-3474-6 Edizione [1st ed. 2022.] 1 online resource (315 pages) Descrizione fisica 690 Disciplina Soggetti Geotechnical engineering Underground construction Buildings - Design and construction Geotechnical Engineering and Applied Earth Sciences Underground Engineering and Tunnel Construction **Building Construction and Design** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Monografia Livello bibliografico Nota di bibliografia Includes bibliographical references and index. Nota di contenuto 1. Summarize -- 2. Basic theory -- 3. Analysis of ground settlement caused by subway tunnel excavation -- 4. Analysis of Deformation and Stress of Buildings under Tunnel -- 5. Quantitative prediction method of building damage -- 6. Risk Management of Crossing Buildings in Tunnel Construction -- 7. Law of ground movement in foundation pit construction of adjacent tunnel buildings -- 8. Key technologies for foundation pit construction of adjacent tunnel buildings -- 9. Impact of high-rise construction on adjacent existing tunnels. This book covers tunnel construction and building construction and Sommario/riassunto design. It has two parts. Part one is for the engineering practice of the subway tunnel through the base of the building in typical geological conditions, to study the mechanism and law of building damage caused by stratum deformation by in-situ monitoring, numerical simulation and theoretical analysis methods. At the same time, the risk management of subway tunnel through the bottom of the building is

discussed. Second part, in view of the excavation and unloading of the foundation pit and the main structure loading in the process of high-

rise building construction, discusses optimization of the construction scheme, systematic evaluation of the safety of the existing tunnel and control measures combined with the engineering practice. This book provides a valuable contribution to the field of tunnel construction and design and construction of building for both the engineering experts and graduate students as well.