





Special Issue Reprint

Structural Analysis of Underground Space Construction

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This Special Issue addresses the pressing challenges posed by rapidly expanding urban infrastructure and the need for sustainable transportation development. As global urbanization accelerates, the safe and efficient use of underground space has become essential for transportation networks, energy storage, and resilient city planning. This collection advances the scientific foundation for mitigating construction risks, optimizing structural design, and protecting existing infrastructure—enhancing public safety, minimizing economic losses, and supporting environmentally responsible development.

The Issue compiles 10 peer-reviewed papers with topics such as the impact of underground construction on adjacent pile foundations, stability analysis of soft rock tunnels, rockburst mechanisms in deep tunnels, and the mechanical behavior simulations of TBM segment. Together, these contributions not only address key gaps in predicting underground structural performance but also offer a roadmap for future construction standards—paving the way for safer, more cost-effective, and ecologically integrated underground development worldwide.





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