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城市地铁隧道工作面开挖的地层应力分布规律

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摘要 基于深圳地铁实测资料, 系统地分析了隧道工作面开挖的地层应力分布特征, 揭示了城市地铁隧道工作面围岩应力重分布的规律, 提出了浅埋隧道围岩应力的分区概念。

关键词 [隧道工程；城市地铁隧道；地层应力；分布特征](#)

分类号

DISTRIBUTION LAWS OF STRATUM STRESS WITH WORKING FACE EXCAVATION IN SUBWAY TUNNELS

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Abstract

Based on field test of subway tunneling in Shenzhen, the stress distribution characteristics in working face are studied systematically and the distribution laws are explained. The sectional character of stress distribution in surrounding rock mass of shallow tunnel is proposed. The research can be concluded as follows: (1) For shallow tunnel, the earth pressure at arch points is not equal to overlying strata load; and (2) the pressure at arch foets is higher than their strength. The pore water pressure at arch is minus, which means soil is loose. Tensile stress is found in the pre-reinforced structure and self-support structures can exist in the overlying strata.

Key words [tunnel engineering; urban subway tunnel; stratum stress; distribution characteristics](#)

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