

相邻隧道施工对上海地铁二号线的影晌分析

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摘要 上海明珠线东方路车站附近的区间隧道是相邻于地铁二号线的区间隧道建设的,二者中心线间的最小距离为12.3 m。由于距离很近,新隧道的施工对原有的地铁二号线隧道的影响不可避免。讨论了在新隧道施工过程中地铁二号线隧道的位移变化规律;研究了新建的盾构隧道的推进对原有隧道的影响特征,并且,给出了在已有隧道附近建设新隧道的规划和施工建议;同时,用数值模拟手段对隧道变形进行了预测,并将预测结果与实测结果进行了比较。

关键词 [隧道工程](#); [地铁](#); [盾构隧道](#); [变形](#); [监测](#); [相邻隧道](#); [数值模拟](#)

分类号

RESPONSE OF SHANGHAI RUNNING-METRO LINE 2 TO THE CONSTRUCTION OF ADJACENT TUNNELS

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Abstract

Shield-driven tunnels of the Pearl Line 2 were constructed adjacent to the Metro Line 2 tunnels near Dongfang Road Station in Shanghai. A minimum distance of 12.3 m between the centerlines separates the new and existing tunnels from each other. In view of the scale and distance of construction, significant influence on Metro Line 2 tunnels is expected. The paper presents the monitoring of the tunnel deformations during the process of construction. Automatic monitoring system of electric level bar was installed in the Metro Line 2 tunnel to monitor their displacements and to ensure the safety of running Metro Line 2. It describes the characteristics of influence from the thrust of a succeeding tunnel to a preceding tunnel and gives some advices about the planning and construction of the tunnel adjacent to the existing tunnels. FEM analysis is applied to provide comparison with the measured data.

Key words [tunneling engineering](#); [metro](#); [shield driven tunnel](#); [deformation](#); [monitoring](#); [adjacent tunnel](#); [numerical simulation](#)

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