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深基坑开挖地表移动变形分析的Fuzzy模型

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摘要 采用模糊数学中的模糊测度理论导出了深基坑开挖引起的周围地表移动变形问题分析的数学模型，并用该模型对深基坑开挖引起的周围地表移动变形工程实例进行了具体的计算分析。将理论分析结果与现场实测资料比较，二者吻合得较好。这一结果表明，导出的模糊测度理论模型适用于预测分析城区深基坑开挖引起周围地表移动变形问题。

关键词 岩土力学；深基坑；地表移动变形；模糊测度

分类号

FUZZY MODEL FOR ANALYSIS OF GROUND MOVEMENT AND DEFORMATION DUE TO DEEP EXCAVATION

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Abstract

Based on the results of the statistical analysis of a large amount of measured data in excavation，a fundamental theoretical model of ground surface movement due to deep excavation is established by using the fuzzy measures theory of fuzzy mathematics. The formulae of ground surface displacement and deformation are developed and applied to the prediction of the ground surface movement due to deep excavation. The agreement of the theoretical results with the field measurements shows that the model is satisfactory and the formulae obtained are valid and thus can be effectively used for predicting the ground movement due to deep excavation in the city.

Key words rock and soil mechanics；deep excavation；ground displacement and deformation；fuzzy measures

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