

苍岭特长公路隧道岩爆预测和工程对策

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摘要 从苍岭隧道的工程地质状况入手, 结合现场实测的地应力值, 通过反演得出隧道区内的初始应力场, 在此基础上通过有限元分析获取了隧道开挖后的洞周应力值, 以此为依据, 结合室内岩石试验和不同岩爆判据, 得出了勘察设计阶段本区将产生低-中等岩爆的结论, 并在设计中提出了相应的对策。在施工阶段为更加准确预测岩爆, 结合施工中实际状况对隧道区内的总体岩爆状况进行重新预测, 结果显示低-中等岩爆区间都相应减少; 同时利用现场实测应力值对前方300~500 m段进行了分阶段预测, 并得出卢森判据适用于该隧道的结论。

关键词 [隧道工程](#); [苍岭隧道](#); [岩爆](#); [应力](#); [有限元](#); [判据](#)

分类号

PREDICTION AND COUNTERMEASURE FOR ROCKBURST IN CANGLING MOUNTAIN HIGHWAY TUNNEL

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Abstract

Based on the engineering geology and the measured geostress, the initial stress field is obtained by inversion. Then the circumferential stress after excavation is calculated by FEM. According to the results and combined with laboratory rock test and different judgement criteria of rockburst, the conclusion is got that the low middle class of rockburst will occur in the survey and design phases; and some countermeasures are proposed. In the construction phase, for prediction of rockburst with more precision, the general rockburst condition is predicted again combined with the real situation; and the result shows that the low-middle class of rockburst diminishes correspondingly. Meanwhile, the rockburst 300-500 m in front of the cutting face is predicted by stages according to the measured geostress; and the Lusen criterion is found to be applicable.

Key words [tunnelling engineering](#); [Cangling mountain tunnel](#); [rockburst](#); [stress](#); [FEM](#); [criteria](#)

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