国标岩体分级标准BQ的图解法表示

申艳军1，徐光黎2*

(1. 西安科技大学 建筑与土木工程学院，陕西 西安 710054；2. 中国地质大学 岩土钻掘与防护教育部工程研究中心，湖北 武汉 430074)

USING GRAPHIC METHOD TO REPRESENT NATIONAL STANDARD FOR ROCK MASSES CLASSIFICATION BQ

SHEN Yanjun1，XU Guangli2*

(1. College of Architecture and Civil Engineering，Xi?an University of Science and Technology，Xi'an，Shaanxi 710054，China；
2. Engineering Research Center of Rock-Soil Drilling and Excavation and Protection，China University of Geosciences，Wuhan，Hubei 430074，China)

摘要	参考文献	相关文章

Download: PDF (368KB)   HTML 1KB   Export: BibTeX or EndNote (RIS)   Supporting Info

摘要 《工程岩体分级标准》(GB50218—94)作为适用于各类型岩石工程的岩体分级标准，其采用定性与定量相结合的分级方法，在不同岩体工程行业中得到广泛应用。但因其定性描述内容繁杂，分级依据相对笼统；定量指标BQ计算时需考虑相应限制条件，使得实用性受到一定限制。基于此，介绍应用图解法表示国标岩体分级标准BQ，将岩石单轴饱和抗压强度Rc和岩体完整性指数Kv作为纵、横坐标，同时将2个限制条件考虑进去，建立可反映岩体级别的BQ折线图。经工程实例验证表明，此方法可较方便、快捷、准确地确定待评估岩体质量级别。此外，针对BQ法局部定性特征描述与定量指标不一致的情况，利用图解法结果对BQ法岩石单轴饱和抗压强度Rc和岩体完整性指数Kv的定性划分提出相应优化建议，较原有分级标准，优化后的定性分级与岩体质量评价值的吻合度提高3%～12%。最后，对BQ图解法分级指标值的选取、修正因素对图解法评价结果的影响作有益讨论与图解表示，该研究思路与结果可为后期修正优化国标BQ法提供一定借鉴作用。

关键词： 岩石力学　BQ　图解法　分级标准　优化建议　修正因素

Abstract： The National Standard for Engineering Classification of Rock Masses(GB50218—94)，as a general rock masses classification standard，can be suitable to all kinds of rock engineering；it uses the method combining the qualitative description with the quantitative calculation to evaluate the rock masses quantity，and has been extensively applied to different rock-mass projects. Yet because the qualitative description content is relatively complex，the grading criteria is fairly rough；and when using the quantitative index BQ formula，it is necessary to consider two corresponding limiting conditions，the practicality of the BQ is effected to some extent. For the purpose of solving these problems，a graphic method is put forward to represent the national standard rock masses classification BQ，the intact rock uniaxial compressive strength Rc and the integrity index Kv of rock masses are chosen as the Y-axis and the X-axis，respectively；and the two limiting conditions are also considered into this method to draw the broken line graph. Using this graph，the rock masses classification can be determined conveniently，rapidly and accurately as the results of different rock engineering examples. Besides，in view of the local inconsistence conditions between the qualitative descriptions and the quantitative indices，some optimizations to the qualitative grades of the intact rock uniaxial compressive strength Rc and the integrity index Kv of rock mass are done according to the graphic results，the coincident degree between the optimized qualitative grades and the BQ value has been increased 3%‒12% comparing with the original grades and the BQ values. At last，the choosing approach of two grade indices and the influence of modified factors to the graphic results have also discussed and analyzed by the chart. This research can provide some references to the latter modified and optimized to the national standard BQ.

Keywords： rock mechanics　BQ　graphic method　classification standard　optimized suggestions　modified factors

引用本文：

Service

- 把本文推荐给朋友
- 加入我的书架
- 加入引用管理器
- Email Alert
- RSS

作者相关文章