谭成轩,孙炜锋,孙叶,王连捷.地应力测量及其地下工程应用的思考[J].地质学报,2006,80(10):1627-1632

地应力测量及其地下工程应用的思考

点此下载全文

谭成轩 孙炜锋 孙叶 王连捷

中国地质科学院地质力学研究所，中国地质科学院地质力学研究所，国土资源部实物地质资料中心，中国地质科学院地质力学研究所 北京，100081，北京，100081，河北燕郊，056201，北京，100081

基金项目：国家自然科学基金项目(编号50579098)，国土资源部百名人才计划联合资助的成果。

DOI：

摘要：

国内外地应力实测资料证实,地表附近构造应力受多种影响因素的干扰,经常叠加着非构造应力(如地形等引起的应力)。为此,本文讨论了地应力测量及其地下工程应用值得注意的问题。地应力测量前应充分考虑测量孔位的选定和地形地貌、岩性、断裂等的影响;地应力测量后应对测值的各种影响因素和可靠性进行分析、进行岩石力学性质校正和对比分析以及测值的代表性分析等;工程应用应考虑具体工程所处不同构造部位、不同岩性、不同岩体结构、不同深度等局部地应力状态的变化和差异,此外,工程本身不同的设计结构、尺寸等引起的局部地应力状态变化也需予以充分考虑。

关键词：地应力 构造应力 非构造应力 地下工程

A Consideration on In-Situ Crustal Stress Measuring and Its Underground Engineering Application

Download Fulltext

TAN Chengxuan 1),SUN Weifeng 1),SUN Ye 2),WANG Lianjie 1) 1) Institute of Geomechanics,Chinese Academy of Geological Sciences,Beijing,100081 2) Real Geological Data Center,Ministry of Land and Mineral Resources,Yanjiao,056201

Fund Project:

Abstract:

Tectonic stress near the surface of crust,which is measured and tested at home and abroad,is always affected by a few factors,and is overlapped by non-tectonic stress,e.g. stress caused by topography. Therefore,this paper has discussed the items needed to pay attention before and after crustal stress measuring. Before the measurements,we should focus on the determination of measuring sites and on the influence of the factors of landform,rock types,fractures,and so on. After the measurements,an analysis on the reliability,the correction and comparison,and the representative of the measuring values is necessary. The variation and difference of local crustal stress states should be considered at different structural sites,different rock types,different rock mass constitutions,different depths and so on along underground engineering route line. In addition,the variation of local crustal stress states caused by different engineering design texture,size and so on should also be taken into consideration.

Keywords:geostress tectonic stress non-tectonic stress underground engineering

查看全文 查看/发表评论 下载PDF阅读器