岩石力学与工程学报 2005 24 (06): 934 ISSN: 1000-6915 CN: 42-1397/O3

边坡抗滑桩加固效果监测分析

沈 强，陈从新，汪 稔，刘小巍

(中国科学院 武汉岩土力学研究所，湖北 武汉 430071)

收稿日期 2004-4-23 修回日期 2004-6-28 网络版发布日期 2007-2-8 接受日期 2004-4-23

摘要 抗滑桩是边坡加固的重要手段之一，特别当边坡滑动面确定，滑动面下覆地层强度较好时，更能体现其优越性。但是当边坡下部地层还存在较软弱层时，采用抗滑桩加固，有可能在深层形成新的滑动面，导致抗滑桩加固效果不理想甚至失败等。通过对湖北程潮铁矿西区边坡抗滑桩加固效果监测成果的分析表明：该边坡加固后存在浅层和深层2个滑动面，因为抗滑桩发生作用后，在原有浅层滑动面的基础上，出现了新的软弱面，从而形成浅层和深层2个滑动面；抗滑桩由于长度原因只对浅层滑动起加固作用；同时，地下水是影响边坡变形的重要因素。

关键词 岩土力学；边坡；抗滑桩；监测；滑动面；地下水

分类号

MONITORING AND ANALYSIS OF REINFORCEMENT EFFECT ON SLOPE ANTI-SLIDE PILES

SHEN Qiang，CHEN Cong-xin，WANG Ren，LIU Xiao-wei

(Institute of Rock and Soil Mechanics，The Chinese Academy of Sciences，Wuhan 430071，China)

Abstract

Anti-slide pile is an important method for slope treatment，especially when the slide face is certain and the subterrane is stable，the method is proved to be prior. But if there exist more weak terrains under the slide face， a new slide face may be formulated after being reinforced and ideal reinforcement effect can not be achieved. Monitoring and analysis of anti-slide piles reinforcement effect on the west area slope of Chengchao Iron Ore are analyzed. The results indicate that there are shallow-layer and deep-layer slide faces in the slope after reinforcement. At first，there is only a shallow-layer slide face found before reinforcement，but a new weak face on the base of the first shallow-layer slide face is found after reinforcement and then，shallow-layer and deep-layer slide faces are found. However，anti-slide pile has effects only on the shallow-layer slide face because of its length. It is pointed out that the influence of ground water is an important factor for slope deformation.

Key words rock and soil mechanics；slope；anti-slide pile；monitoring；slide face；ground water

DOI:

通讯作者