



论文摘要

中南大学学报(自然科学版)

ZHONGNAN DAXUE XUEBAO(ZIRAN KEXUE BAN)

Vol.33 No.4 Aug.2002

[PDF全文下载] [全文在线阅读]

文章编号: 1005-9792(2002)04-0405-04

潜孔钻机全液压接卸钻杆装置的研制

吴万荣, 黄志雄, 何清华, 朱建新

(中南大学机电工程学院, 湖南长沙 410083)

摘要: 通过综合分析潜孔钻机接卸钻杆装置, 提出了全液压接卸钻杆装置的结构方案及液压控制系统, 研究了夹杆缸的结构及夹杆缸与夹杆缸的联接方式, 研制了夹杆缸双行程及夹杆缸活套联接结构的夹杆器, 分析了夹杆缸结构参数与工作参数的相互关系. 针对现有接卸钻杆装置钻杆的夹持力过大, 降低钻杆使用寿命问题, 根据材料的接触强度理论与变形理论, 对钻杆合理夹持力进行了研究, 并提出了夹杆爪的设计方法. 实践结果表明, 所研制的全液压接卸钻杆装置操作快捷方便, 具有良好的接卸钻杆、接卸钻头和钻机开孔导向控制功能.

关键字: 接卸钻杆; 夹杆缸; 夹杆爪; 夹紧力

The development of fully hydraulic rod-breaker

WUWan-rong, HUANG Zhi-xiong, HE Qin-hua, ZHU Jian-xin

(College of Mechanical and Electrical Engineering, Central South University, Changsha 410083, China)

Abstract: Based on the analysis of the current rod breakers of down-hole drill, the structural program and hydraulic system of the fully hydraulic rod breaker are proposed. The clamping cylinder structure and the attaching way between the clamping cylinder and the jaw are studied, the correlation between the structural parameters of the clamping cylinder and its working parameters and the rod-clamping with novel style are put forward. In view of the service life of the current rod breaker affected by the clamping force, the design way of the jaw and the study method of reasonable clamping are studied. The experiment results show that the rod breaker can be easily operated, and that it has fine functions of jointing-breaking rods, jointing-breaking drill bit and guiding on opening hole.

Key words: rod-breaker; clamping cylinder; clamping hands; clamping force

有色金属在线

中国有色金属权威知识平台

版权所有：《中南大学学报(自然科学版、英文版)》编辑部

地 址：湖南省长沙市中南大学 邮编： 410083

电 话： 0731-88879765 传真： 0731-88877727

电子邮箱： zngdxb@mail.csu.edu.cn 湘ICP备09001153号