Performance parameters of hydraulic rock drill

The lack of research on the double damper system seriously restricted the impact power"s increase of hydraulic rock drills. The structure and working principle of the double ...

Download Citation | Delayed feedback control and parameter continuation of multistability in a nonsmooth hydraulic rock drill model | In response to the complex multistable ...

Under the action of hydraulic pressure, the piston of the rock drill impacts the drill rod at a certain speed and breaks the rock through the drill rod and the drill bit. At the same time, the ...

The double damper system played an important role in shock absorption and noise reduction of the heavy hydraulic rock drill. However, its floating characteristic had negative ...

Abstract As a technological innovation of high-power hydraulic rock drill, double damping system has a very important effect on impact performance. The ...

As the core component of hydraulic rock drill, the performance parameters of impact mechanism have great influence on drilling efficiency and drilling tool life order to obtain more accurate ...

Download scientific diagram | Structure of rock-drill drifter from publication: A percussion performance analysis for rock-drill drifter through simulation ...

The heavy hydraulic rock drill with high-frequency and high-power had become the first choice facing large-scale mining and larger-sized tunneling [4-6]. Meanwhile, damper system"s ...

In response to the complex multistable behavior observed in hydraulic rock drills during the drilling process, this study first establishes a four-degree-of-freedom physical model ...

Using a self-designed hydraulic impact drilling test-bed and rock core drill, six groups of cylindrical granite specimens (93 mm dia. × 200 mm) containing ...

An impact system is the core part of the hydraulic rock drill. The dynamic simulation model of the hydraulic impact system is established based on the system simulation platform ...

For the case of constant stress wave input in analyzing a hydraulic rock drill, the value of stress waves which arrived the damping piston was calculated after many transmissions and ...

Performance parameters of hydraulic rock drill

Abstract A high frequency hydraulic rock drill drifter with sleeve valve is developed to use on arm of excavator. In order to ensure optimal working parameters of impact system for the new ...

In response to the issues of overheating of the shell and insufficient impact energy of the hydraulic rock drill, this paper focuses on the ...

The impact system with an optimal efficiency is designed, and the working parameters are optimized. Our proposed system efficiency increases by 17.7% after the ...

The integrated drilling and splitting machine is a kind of engineering machinery that integrates the functions of drilling and splitting. It directly installs the rock ...

A coupling simulation model is developed using the multibody dynamics (MBD) and DEM for rotary-percussive drilling and rock to investigate the influence of the operational ...

In response to the issues of overheating of the shell and insufficient impact energy of the hydraulic rock drill, this paper focuses on the hydraulic rock drill ...

Relationships between drilling parameters of weight on bit, rotary speed, tooth and bearing wear, hydraulic power, and rate of penetration (ROP) as well as drilling bit wear are ...

Hydraulic rock drill is a new type drilling equipment with high efficiency, low energy consumption and low pollution. It is widely used in metallurgical mine, roadway drivage, and ...

It improves the drilling efficiency greatly, and promotes the development of productivity. In the recent three decades, there are many developments of hydraulic rock drill ...

Considering the insufficiency of numerical study on the percussion characteristic of hydraulic rock drill, which restricts the improvement of ...

As a technological innovation of high-power hydraulic rock drill, double damping system has a very important effect on impact performance. The double damping system is a floating ...

Download Citation | Analysis and optimization of the working parameters of the impact mechanism of hydraulic rock drill based on a numerical simulation | An impact system ...

As the core component of rock drill, the performance of percussion system decides the whole level of rock drill to a great extent.8,9However, the structure of per-cussion system ...

Using a self-designed hydraulic impact drilling test-bed and rock core drill, six groups of cylindrical granite

specimens (93 mm dia. × 200 mm) containing central axial holes formed either by ...

A high frequency hydraulic rock drill drifter with sleeve valve is developed to use on arm of excavator. In order to ensure optimal working parameters of impact system for the ...

Download scientific diagram | Structure of rock-drill drifter from publication: A percussion performance analysis for rock-drill drifter through simulation modeling and experimental ...

Yang et al. 8, 9 constructed a numerical model of hydraulic rock drill impact system by Amesim for front constant-pressurized chamber hydraulic rock drills, then optimized the design of key ...

Yang [8] built a numerical model of the hydraulic rock drill impact system by using a bond graph method and optimised the key structural parameters. Hashiba [9] simulated the impact ...

In response to the issues of overheating of the shell and insufficient impact energy of the hydraulic rock drill, this paper focuses on the hydraulic rock drill with alternating front ...

To optimize and improve the impact performance of a hydraulic rock drill, it is helpful to test the stress waves of the drill and analyze the impact energy, impact frequency, ...

Web: https://www.staskowachata.pl