A Big Earth Data Platform for Three Poles

**Experimental investigation of geogrid-reinforced sand cushions for rock sheds against rockfall impact (2021)**

1、Description

Sand cushion is often used to be arranged on the top of shed tunnel structure to protect highway and railway from rockfall. In order to improve the impact energy, thick cushion is often used, which increases the construction cost. In this study, geogrid is used as reinforcement material to improve the impact resistance of sand cushion without increasing the thickness of sand layer. In order to study the effects of different grid reinforcement positions and layers on the impact performance, indoor impact tests were carried out. The test results show that the geogrid with reinforcement in the appropriate position can reduce the impact force, disperse the impact stress in the sand layer, reduce the vibration of the plate and increase the impact time. In this test, the position where the sand cushion is one-third away from the bottom is the optimal reinforcement position. At the same time, the grid should be a certain distance from the top surface of the sand layer to ensure a certain energy absorption capacity. When the thickness of sand cushion is thin, the multi-layer geogrid reinforced sand cushion should be used carefully. The data content includes: rockfall impact force, impact stress at the bottom of sand cushion, and deformation of bottom plate of sand cushion. The impact force is obtained by multiplying the acceleration and mass collected by the acceleration sensor; The impact stress is obtained by the stress sensor; The deformation of the plate is obtained by the acceleration sensor at the bottom of the plate.

2、Keywords

Theme：impact force,Other  
Discipline：Terrestrial Surface  
Places：Wuhan  
Time：month, 2021

3、Data details

1.Scale：None

2.Projection：

3.Filesize：200.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：29.58 | - |
| west：113.41 | - | east：115.05 |
| - | south：31.22 | - |

5、Time frame:2020-12-31 16:00:00+00:00--2021-06-29 16:00:00+00:00

6、Reference method

References to data:

JIANG Qinghui . Experimental investigation of geogrid-reinforced sand cushions for rock sheds against rockfall impact (2021). A Big Earth Data Platform for Three Poles, doi:10.11888/Terre.tpdc.2721962022

References to articles:

7、Supporting project information

8、Data resource provider

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