A Big Earth Data Platform for Three Poles

**Velocity test of siphon drainage for landslides (2020)**

1、Description

Landslide drainage and seepage prevention is a common technology for the treatment of landslide source area in Qinghai Tibet Plateau. The calculation of the existing siphon drainage velocity formula is improved, and the correctness of the modified velocity formula is verified by experiments. The test results show that: (1) the existing siphon calculation formula is only suitable for the calculation of low lift siphon drainage velocity, and the calculation error of high lift siphon drainage velocity is large, and the maximum relative error is more than 90%; (2) The modified siphon calculation formula is suitable for siphon drainage systems with various heads. The theoretical calculation results are in good agreement with the experimental results, and the relative general error of theoretical calculation is less than 20%; (3) Therefore, it is recommended to use the proposed modified formula for the calculation of siphon drainage velocity.

2、Keywords

Theme：landslide,Natural Disaster  
Discipline：Human-nature Relationship  
Places：hangzhou  
Time：2020

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.02MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：90.0 | - |
| west：0.0 | - | east：0.0 |
| - | south：-90.0 | - |

5、Time frame:2020-05-31 16:00:00+00:00--2020-11-29 16:00:00+00:00

6、Reference method

References to data:

ZHENG Jun . Velocity test of siphon drainage for landslides (2020). A Big Earth Data Platform for Three Poles, doi:10.11888/HumanNat.tpdc.2721032022

References to articles:

Zheng, J., Guo, J., Wang, J., Zhang, Y., Lü, Q., & Sun, H\*. (2021). Calculation of the flow velocity of a siphon. Physics of Fluids, 33(1), 017105-1-9.

7、Supporting project information

Catastrophic mechanisms and risk control of disastrous landslides in the Tibetan Plateau

8、Data resource provider

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