

Earth Surf. Dynam. Discuss., referee comment RC2
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Comment on esurf-2021-62

Anonymous Referee #2

Referee comment on "Failure mode of rainfall-induced landslide of granite residual soil, southeastern Guangxi province, China" by Shanbai Wu et al., Earth Surf. Dynam. Discuss., <https://doi.org/10.5194/esurf-2021-62-RC2>, 2021

Thank you to allow me to review this manuscript. Granite residual soil landslides are widely distributed in southeastern Guangxi, China. In this paper, the authors reproduced the failure mode and process of granite residual soil landslide by flume model tests. This work is interesting to read. However, some critical points should be addressed before the manuscript can be accepted.

(1) The entire manuscript should be polished by a native English speaker, as some sentences are not concise enough and there're some spelling or grammatical mistakes.

(2) In line 144-145, the particle size distribution of the granite residual soil has an "upward convex" part in Figure 2, which is impossible in the cumulative distribution curve. The authors should check the accuracy of the data and Figure 2. It is also recommended that the two important particle sizes in the article (2mm and 0.075mm) are marked in Figure 2.

(3) In Section "3.1 Macroscopic phenomena of tests", the author intended to elaborate on the macroscopic phenomena of the slope during the 6 experimental tests. However, Figure 6 only shows the slopes after soil sliding in these 6 tests. Therefore, the authors may choose one test as an example, clarify the processes and characteristics of the tests based on the experimental photographs.

(4) In sections "3.2 Moisture Content" and "3.3 Pore Water Pressure", the author explains the variation of the moisture content and pore water pressure during the experiments in detail, but the reasons for the variation have not been analyzed in depth. It is suggested that the author analyze the variations of water content and pore water pressure sensors,

combined with the macroscopic phenomenon of the slope failure. The authors should deeply analyze the landslide failure processes, and try to reveal the failure mechanism based on your tests.

(5) In line 280-295, in view of the water content value in Test 5 and 6, the authors did not clarify the phenomenon that the water content in Test 6 has a longer response time than Test 5. It can be seen from No. 1~4 tests, the initial response time of the water content will become shorter as the rainfall intensity increasing. However, the water content in Test 6 has a much longer response time than Test 5.

(6) The author analyzes the failure modes and processes of the granite residual soil landslide by considering three variables, which are slope angles, initial dry densities and rainfall intensities. Frankly speaking, the experimental tests are too few to support the conclusion of the article. If possible, I suggest the author conduct more tests by considering different test conditions.

(7) The conclusions in this manuscript should be rewritten and rearranged in a more logical way.