

Debris Flow event on Osorno volcano, Chile, during summer 2017: New interpretations for chain processes in the Southern Andes.

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1. Reviewer 2: Equation 1: Please, define the symbol "A" and the underscore symbol.

A: Now we added the description

Insert text: "... distribution and $A(\alpha_f)$ is called the mobility of the fluid at the interface."

2. Reviewer 2: Table 1 reports parameters with different units respect to those used elsewhere in the text. I suggest the following corrections: Natural unit weight -> Natural density, Dry unit weight -> Density, Unit weight after consolidation -> Density after consolidation.

A: Modified

3. Reviewer 2: Concerning the last to lines of Table 1, "shear force" and "normal force" are actually "shear stress" and "normal stress". Moreover, I suggest to adopt SI units and convert the stress unit from kg/cm² to N/m² or N/cm². Table 2 reports the density in kg/m³, differently from Table 1, which reports densities in g/cm³. This is not an error, but it would be better to adopt the same units across the paper (See previous comment on Table 1). I propose to maintain the units adopted in Table 2 and modify those of Table 1.

A: We modified shear and normal forces to shear and normal stress. Moreover, we used same units for densities to be consistent with table 2. Finally, the stress unit are on N/m²

4. Reviewer 2: Moreover, in Table 2, the decimal separator (dot) is intermixed with the decimal separator (comma). I suggest to uniform the separators by using the dot for separating the decimals.

A: We correct this typo using only dots.

5. Reviewer 2: Header of Table 2: usd -> used

A: Corrected

6. Reviewer 2: Line 78: "routethe" -> "route the"

A: Corrected

7. Reviewer 2: Line 125: cannel -> channel

A: Corrected

8. Reviewer 2: Lines 234-235: It seems that a reference cannot be found

A: Removed

9. Reviewer 2: Line 342: 105 -> 10^5

A: Corrected