

EGU22-11541

<https://doi.org/10.5194/egusphere-egu22-11541>

EGU General Assembly 2022

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.



## **Slope stability analysis of embankment dam under total and effective pore pressure**

**Tri Hartanto**

University of Indonesia, Civil Engineering, Indonesia (adhe.trie@gmail.com)

Very often many new construction and operating embankment dams need to be evaluated in terms of the slope stability. The necessity of considering body forces, pore-water pressures, and a variety of soil types in the analysis vitiates the application of methods that are well founded in the mechanics of continua and employ representative constitutive equations.

This study comparing stability analysis using total stress after the end of construction with effective stress couple of years later after the first impounding. Studies have indicated the advantages to be obtained employing an effective stress failure criterion (Bishop, 1952, Henkel and Skempton, 1955 and Bishop, 1960) for analysis and design of embankment dams. Pore-water pressure are determined from piezometer readings during the construction until the dam was operated.

This paper presents the results of stability analysis of embankments dam with both parameters and conditions, resulting that pore water pressures influence slope stability of the embankment.