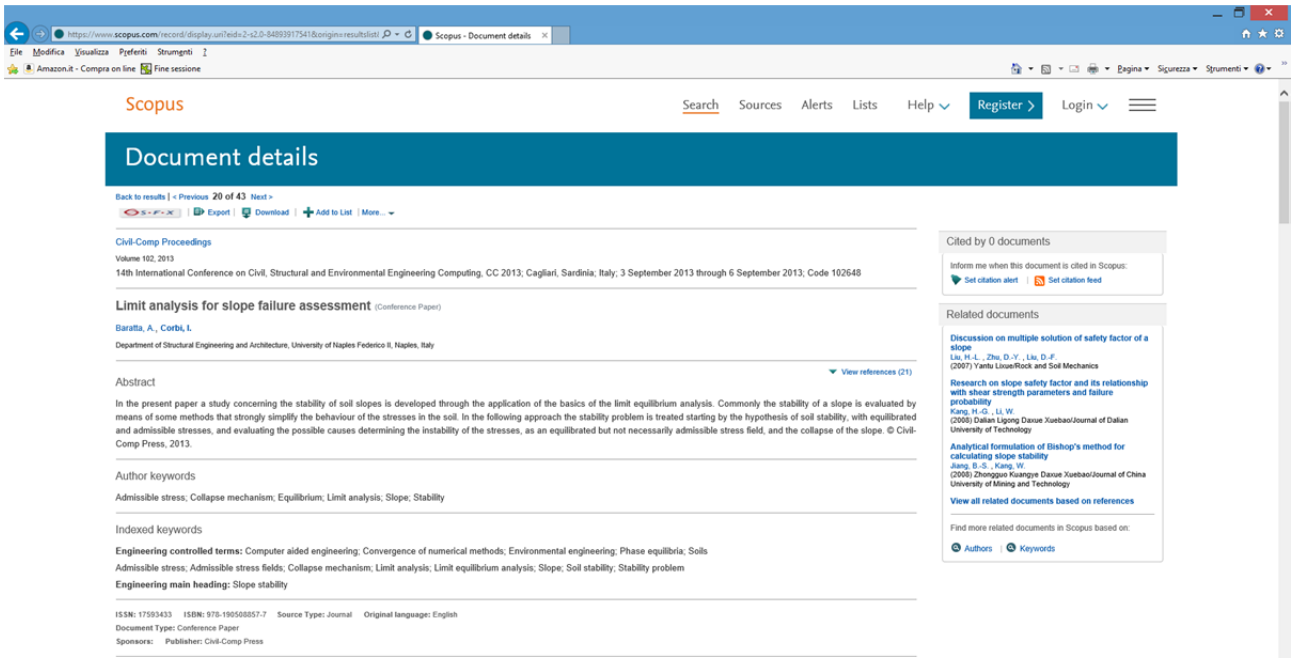

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Limit analysis for slope failure assessment (Conference Paper)

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Abstract

In the present paper a study concerning the stability of soil slopes is developed through the application of the basics of the limit equilibrium analysis. Commonly the stability of a slope is evaluated by means of some methods that strongly simplify the behaviour of the stresses in the soil. In the following approach the stability problem is treated starting by the hypothesis of soil stability, with equilibrated and admissible stresses, and evaluating the possible causes determining the instability of the stresses, as an equilibrated but not necessarily admissible stress field, and the collapse of the slope. © Civil-Comp Press, 2013.

Author keywords

Admissible stress; Collapse mechanism; Equilibrium; Limit analysis; Slope; Stability

Indexed keywords

Engineering controlled terms: Computer aided engineering; Convergence of numerical methods; Environmental engineering; Phase equilibria; Soils

Admissible stress; Admissible stress fields; Collapse mechanism; Limit analysis; Limit equilibrium analysis; Slope; Soil stability; Stability problem

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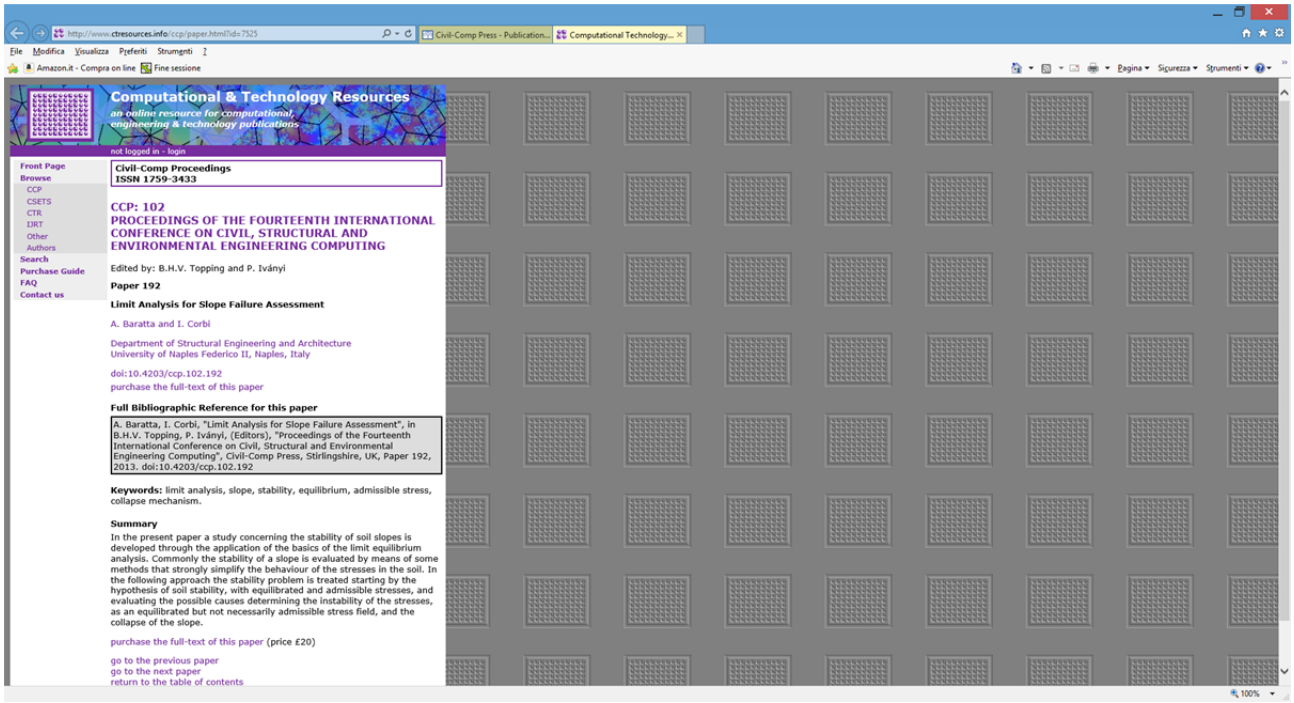

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Limit Analysis for Slope Failure Assessment

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Keywords: limit analysis, slope, stability, equilibrium, admissible stress, collapse mechanism.

Summary

In the present paper a study concerning the stability of soil slopes is developed through the application of the basics of the limit equilibrium analysis. Commonly the stability of a slope is evaluated by means of some methods that strongly simplify the behaviour of the stresses in the soil. In the following approach the stability problem is treated starting by the hypothesis of soil stability, with equilibrated and admissible stresses, and evaluating the possible causes determining the instability of the stresses, as an equilibrated but not necessarily admissible stress field, and the collapse of the slope.

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