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Abstract title

Smoothed Particle Hydrodynamics applied to the modelling of landslides
Landslides are among the most devastating natural hazards because they often initiate rapidly and mobilize very large volumes of material. While the mechanics of landslides is relatively well understood it is still extremely difficult to anticipate any particular event and estimate its potential consequences. Indeed the variety of triggering factors and the specific geomorphological characteristics of the slope make each landslide unique. Meshfree methods are ideally suited to handle large deformations associated with slope failure but they often assume the mechanism of failure a priori. In this work we apply Smoothed Particle Hydrodynamics to simulate all phases of a landslide within one single numerical platform. A Drucker-Prager model is used to determine the onset of failure. The post-failure behaviour is accommodated naturally by the meshfree nature of the method. The relevance of the method to the modelling of landslides is demonstrated on several example of slope failure.
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<th>Presenting author’s information</th>
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- [✔] Oral presentation
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