This work presents a probabilistic method of slopes \cite{26}. Thus, we evaluate earthquake-induced displacements. The research involves developing predictive models for the...

**Predicting Earthquake Induced Landslide Displacements**

Earthquake-induced sliding displacement is the parameter most often used to assess the seismic stability of slopes. The expected displacement can be predicted as a function of the characteristics of the slope (yield acceleration) and the ground motion (e.g., peak ground acceleration), yet there is significant aleatory variability associated with the displacement prediction.

Newmark's model for predicting earthquake-induced landslide displacements provides a simple way to predict the coseismic displacements affecting a sliding mass subject to earthquake loading. 30 predict the zone of failure rather than the full landslide extent. Physically-based models of regional earthquake-triggered landslides commonly employ a form of the Newmark sliding block model, which estimates coseismically-driven displacements in hillslopes (Jibson, 2011, Gott et al., 2009) . Where rock -

Newmark displacement model for landslides induced by the ...

**Spatial prediction of earthquake-induced landslide**

**Predicting landslide scenes under potential earthquake**

Displacements induced by earthquake can be very large and result in severe damage to earth... landslide in an earthquake depends on details of slope configuration, material strength and... PREDICTION OF EARTHQUAKE INDUCED DISPLACEMENTS OF SLOPES = 271 kernels \cite{26}. Thus, we use only RBF kernel functions in this study. This work presents a probabilistic method for estimating earthquake-induced nonlinear slope displacements. This method is applicable to any kind of slope, embankment and earth/rockfill dam. When coupled with Probabilistic Seismic Hazard Analysis at title = "A unified model for predicting earthquake-induced sliding displacements of rigid and flexible slopes", abstract = "Permanent sliding displacement represents a common damage parameter for evaluating the seismic stability of slopes. Newmark's model for predicting earthquake-induced landslide displacements provides a simple way to predict the coseismic displacements...".

A principal cause of earthquake damage is landsliding, and the ability to predict earthquake-triggered landslide displacements is important for many types of seismic-hazard analysis and for the design of engineered slopes. Newmark's method for modeling a landslide as a rigid-plastic block sliding on an inclined plane pro Empirical predictive models for earthquake-induced sliding ...

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Seismically induced landslide displacements: a predictive ...

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Prediction of amount of earthquake-induced slope ...
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Predicting approximate earthquake-induced landslide displacements is helpful for assessing earthquake hazards and designing slopes to withstand future earthquake shaking. In this work, the basic methodology outlined by Jibson (1993) is applied to derive the Newmark displacement of landslides based on strong ground-motion recordings during the 2013 Lushan Ms 7.0 earthquake.

Newmark displacement model for landslides induced by the ...
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Earthquake-induced landslide (EQIL) inventories are essential tools to extend our knowledge of the relationship between earthquakes and the landslides they can trigger. Regrettably, such inventories are difficult to generate and therefore scarce, and the available ones differ in terms of their quality and level of completeness. Randall W Jibson - USGS earthquake-induced slope displacements (e.g., Miles_and_Ho, 1999; Barani et al., 2007). This method simplifies a potential failure mass as a rigid-block resisting on an inclined plane. The block starts moving relative to the plane when the total driving force down slope exceeds the yield resistance of the slip surface.

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A unified model for predicting earthquake-induced sliding ...
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Estimation of the earthquake-triggered landslide displacement is one of the most important topics of slope engineering. • New method for predicting earthquake-induced ground displacement. • A new useful and more appropriate regression equation has been obtained to estimate the Newmark displacement. Predicting approximate earthquake-induced landslide displacements is helpful for assessing earthquake hazards and designing slopes to withstand future earthquake shaking. In this work, the basic methodology outlined by Jibson (1993) is applied to derive the Newmark displacement of landslides based on strong ground-motion recordings during the 2013 Lushan Ms 7.0 earthquake. predicting earthquake-induced landslide displacements using newmark's sliding block analysis A principal cause of earthquake damage is landsliding, and the ability to predict earthquake-triggered landslide displacements is important for many types of seismic-hazard analysis and for the design of engineered slopes. Randall W Jibson - USGS Earthquake-induced landslide (EQIL) inventories are essential tools to extend our knowledge of the relationship between earthquakes and the landslides they can trigger. Regrettably, such inventories are difficult to generate and therefore scarce, and the available ones differ in terms of their quality and level of completeness. The preliminary results show that the slope displacement resulted from Newmark model can reflect spatial distribution characteristics of earthquake-induced landslides. The predicted potential earthquake-induced landslide scenes present an obvious extending trend along the Xianshuihe fault.

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