

Experience about landslide-tunnel interaction in tectonized clay shales

Luca Comegna,* Luciano Picarelli**

Summary

Stiff tectonized clay shales are widespread in the Apennines chain. Sloping deposits of these structurally complex materials are highly unstable due to their poor mechanical properties. However, mass movements are generally slow thus loss of human lives is unlikely, even though the economic consequences are often severe. In fact, small mountain villages and the same infrastructure that serves such communities are continuously exposed to the danger of losing serviceability and consequent high costs required for maintenance.

The analysis of the effects of slope movements on facilities and on single artefacts is a special problem, which deserves specific and targeted approaches. This paper describes some cases concerning the interaction between slow slope movements in tectonized clay shales and tunnels.

Keywords: clay shale, slow active landslide, tunnel, interaction

* Professor, Dipartimento di Ingegneria, Università della Campania “Luigi Vanvitelli”, and Centro Euro-Mediterraneo sui Cambiamenti Climatici, Italy

** Professor, Centro Euro-Mediterraneo sui Cambiamenti Climatici, Italy

1-2 cm/y. However, in the Writers' opinion, more rational and useful information would be provided by correlations between measured damage and cumulated displacement rather than displacement