



Ferdinando Totani¹

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Gianfranco Totani²

Valentina Tomei³

DMT TESTING IN LANDSLIDE AREA. A CASE HISTORY: TODI'S HILL (UMBRIA, ITALY)

Summary:

The paper analyzes the results of the in situ Dilatometer test (DMT) in a representative slide area in OC clays.

The method for detecting slip surface in OC clays is based on the DMT – K_d profile, which exhibits K_d drop to the value $K_d \approx 2$ in the slip zones⁴.

Features of the method, believed of practical interest, are:

- fast response so avoiding the wait required by inclinometer measurements;
- the ability to detect quiescent slip surfaces not revealed by inclinometers;
- some ability to evaluate the effects of loosening and remoulding due to sliding on mechanical properties of the soil mass above the slip surfaces.

To sound the validity of such "method" in practice, a series of 8 DMT soundings, each 45 m long, was performed in a slope of the Todi's Hill, notorious for recurrent slips.

The paper presents the results of DMT tests in this analyzed slope and shows the K_d profiles obtained.

Are summarized all the $K_d \approx 2$ depths an indicated a set of slip surfaces reconstructed passing through these depths.

The study of this landslide was concluded with the following steps:

- profile of pore pressure u were obtained at numerous depths during the DMT soundings by DMTC⁵ tests. They show that the u are markedly non hydrostatic.
- Back analyses were carried out for the seat of slip surfaces reconstructed.

Key words: (Stil Naslov sažetka)

Todi's Hill, landslide, DMT Testing, geotechnical characterization, stability analysis

¹ Ferdinando Totani, Eng. PhD, University of L'Aquila, Department of Civil Construction-Architecture and Environmental Engineering, Italy, ferdinando.totani@univaq.it

² Gianfranco Totani, Professor of Geotechnical Engineering, University of L'Aquila, Department of Industrial and Information Engineering and Economics, Italy, gianfranco.totani@univaq.it

³ Valentina Tomei, Civil and Environmental Engineer, Student thesis, University of L'Aquila, Department of Civil Construction-Architecture and Environmental Engineering, valentina.tomei@student.univaq.it

⁴ G. Totani et al., 1997

⁵ Robertson et al., 1988