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CONTINUOUS PRECISE DISPLACEMENT MONITORING USING GPS FOR ASSESSING THE STABILITY OF SLOPES

Summary:

Monitoring is important to assessing the stability of structures and to confirming the validity of the design during the construction and operation of the structures. The ideal monitoring system for projects in Rock and Geotechnical Engineering should be able to continuously and automatically monitor the behavior of an extensive area in real time and with high accuracy. In addition, the costs should be low and the handling should be easy.

Displacement monitoring using GPS (Global Positioning System) satisfies the above requirements. The author and his associates developed a GPS displacement monitoring system. The system provides three-dimensional displacements automatically and continuously at all monitoring points with high accuracy, and users can see the results on the web through the Internet in real time.

In this paper, the system and the procedure of displacement monitoring using GPS are outlined, and practical applications for assessing the stability of slopes are demonstrated.

Keywords: *Displacement monitoring, GPS, three-dimensional displacements, slopes, assessing the stability, Back analysis*

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