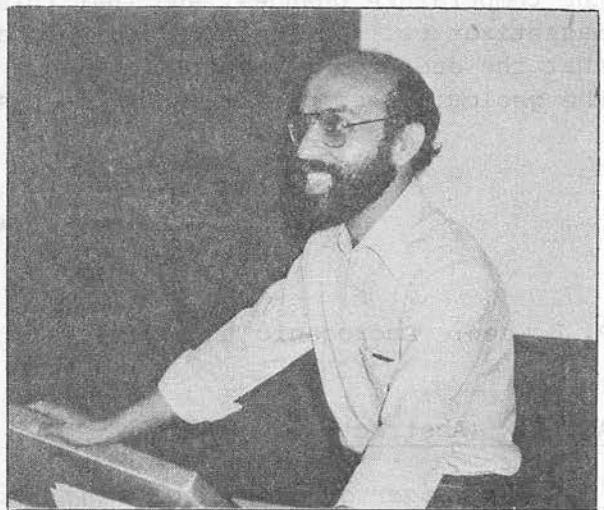




P. BOWDEN



ABDUL GHANI RAFEK

Abdul Ghani Rafek: Orientation of geological planes (joints): their indirect determination and meaning in underground construction.

Abstrak (Abstract)

*In geotechnical exploration, a rock mass classification for idealisation and evaluation of prevailing geological conditions is the main aim. The importance of geological planes in determining the technical characteristics*

of a rock mass are typically illustrated by the consideration given to them in Bieniawski's rock mass classification ( 1974, 1976).

Where outcrops are scarce, indirect methods such as refraction seismic studies can be used to determine the strike directions of the main geological planes. Such studies were conducted by the speaker to determine the main joint directions of a rock mass. The slowness-concept was applied for the interpretation of the results. A qualitative correlation was achieved between the normals to the joint strike directions and the distribution of the slowness values. Also the intensity of jointing was shown to influence the slowness values.

In underground construction, depending on the depth below ground surface, geological planes can cause stability problems. In jointed rocks, sliding or falling of rock blocks or wedges causes instability. Stereographic projection can be used to analyse these problems. In the preliminary exploration phase indirect determination of the strike direction of joint sets can provide the input data for such analysis.

#### Laporan (Report)

Dr. Abdul Ghani Rafek, a lecturer with Universiti Kebangsaan Malaysia who recently obtained his Doctorate from the Ruhr-Universitaet, Bochum, West Germany, presented the talk at the Geology Department, University of Malaya on 14 April 1986.

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