Penerbitan sudut geseran puncak satah ketakselanjaran daripada penentuan kekasaran permukaan

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Abstrak: Kekasaran permukaan satah ketakselanjaran memainkan peranan penting dalam mempengaruhi kestabilan jasad batuan. Beberapa pendekatan boleh digunakan untuk penentuannya. Pembentangan ini mempersembahkan suatu pendekatan mudah di mana dua persamaan polinominal telah diterbitkan untuk mengkorelasikan sudut geseran puncak θ_{puncak} satah ketakselanjaran dengan Pekali Kekasaran Kekar, PKK batuan syis segar dan terluluhawa sedikit. Untuk satah ketakselanjaran batuan syis segar, sudut geseran puncak θ_{puncak}= -0.022PKK2 + 3.21PKK + 28.1°, manakala θ_{puncak}= -0.025PKK2 + 3.24PKK + 26.6°, bagi satah terluluhawa sedikit, dengan koeffisien penentuan (R2) bernilai 0.98 untuk kedua-dua kes. Pendekatan ini memberi satu pilihan penganggaran sudut geseran puncak, θ_{puncak} dengan pengukuran nilai PKK di lapangan dan aplikasi persamaan ini untuk penentuan sudut geseran puncak.

Abstract: The surface roughness of geological discontinuities plays an important role in influencing the stability of rock masses. Several approaches can be adopted for its determination. This presentation puts forward a simple approach whereby two polynomial approximations have been derived to correlate the peak friction angle, θ_{peak} of discontinuity planes of fresh as well as slightly weathered schist with the Joint Roughness Coefficient, JRC. These polynomial approximations are θ_{peak}= -0.022JRC2 + 3.21JRC + 28.1° for fresh discontinuities and θ_{peak}= -0.025JRC2 + 3.24JRC + 26.6° for slightly weathered discontinuities, both with coefficient of determination (R2) of 0.98. These results offer an alternative method for estimation of the peak friction angle, θ_{peak} by measuring the JRC values in a field survey and employing these equations for the estimation of the peak friction angle of the discontinuity planes.

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