Hurst指數在描述節理面粗糙度異向性之應用

This paper uses the Hurst exponent that based on the theory of fractional Brownian motion (fBm), to represent the anisotropic characteristic of the joint surface. The Hurst exponent that is dependent of the sequence of sampling can memory the past height history of asperity. Thus it can represent the anisotropic roughness characteristic of a profile according to the different sampling order and the shearing directions. Then the fractal dimension and the JRC can calculate from the Hurst exponent for a profile. Hence, the anisotropic shear strength of joints based on the Barton's empirical formula is also investigated.