
Study on the evaluation of crack propagation in rock

Takahiro FUNATSU

Controlling crack formation and propagation is important for the mechanical stability of rock mass and the efficient operation of excavation and blasting. For that purpose, it is necessary to quantitatively evaluate the criteria for the occurrence and growth of cracks. I have been working on the so-called fracture toughness, which resists the growth of rock cracks, using both experimental and numerical analysis. The result has been adopted by the International Society for Rock Mechanics (ISRM) as a suggested method for a mode I fracture toughness evaluation for rocks. This paper summarizes a series of research results on rock fracture toughness. The purpose is to contribute to the improvement of rock stability and efficient development by sharing the results.
