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Appraisal of the static parameters of rock mass deformation (D) by seismology and seismic petit tests

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In the implementation of enormous projects, such as dams which put huge forces on anchors and location foundation, or the digging of a tunnel which causes extraction of a huge stone and distribution of power from the initial condition, the knowledge of physical parameters of the rock mass can provide some answers. With the geo-physic seismology methods, elastic and dynamic modulus of stone mass can be discovered. These moduli are very important in recognizing the nature of the rock mass. One of these moduli is called the Young's modulus which resists the axial deformation under axial tension in the elastic range of the rock. In the tensions applied to the stone mass for a long time, the stone will show a non-elastic behavior. The knowledge gained from this behavior is crucial. The static parameter of deformation of the stone mass (D) is a parameter that can cover both elastic and non-elastic behaviors. In order to achieve the static parameter of deformation, there are several rock mechanic tests which require time and money. One procedure that can reduce the amount of time and cost to some extent is known as seismic petit method. This method is based on the frequency shear wave measures that the recipient received with the help of linear relation between the measured frequencies of associated static modules and change shape. This is obtained from load testing e-page static modulus which can be morally deformed rock mass in various parts of the estimate. Evaluation of the results was done on clay plate held in exploratory dam tunnel of Mashhad (Kardeh).

Biography

Reza Zahmatkesh Sarughi has completed his Bachelor of Science in Geology from Ferdowsi University of Mashhad and is studying for his Master's degree in Seismology also in the Ferdowsi University of Mashhad. He has published 3 articles in Geology magazines in the past three years.

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