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SSS027-13

Room:105

Time:May 22 15:15-15:30

Square waves - application for the rock mechanics

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¹TRIES

Rock properties, which are rigidity and energy loss, can be estimated from the attenuation of acoustic waves (Q) or the velocity of propagation. Many velocity estimation studies have been done, by the pulse transmission method (eg. JGS2110-1998) and the frequency modulated continuous wave transmission method (eg. ACROSS). However, these methods can not evaluate attenuation and frequency response, or complicates measurement and analysis. In this study, I propose a continuous square wave method for estimating the rock properties. My method can easily applicate to existed measure system, and give more information on rock properties.

Continuous square wave method that introduced in this paper, was used to actual velocity measurements at Mizunami. These studies will be presented at S-TT55 session by Ishii *et al.* and Sano *et al.* See also these presentation.

Keywords: Square waves, P-wave velocity, Rock mechanics, Odd numbered-overtone, Frourier analysis