IMPROVEMENT OF METHOD FOR ESTIMATION OF SITE AMPLIFICATION FACTOR BASED ON AVERAGE SHEAR-WAVE VELOCITY OF GROUND

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ABSTRACT: The empirical equation for estimating the site amplification factor of ground motion by the average shear-wave velocity of ground (AVS) is examined. In the existing equations, the coefficient on dependence of the amplification factor on the AVS was treated as constant. The analysis showed that the coefficient varies with change of the AVS for short periods. A new estimation equation was proposed considering the dependence on the AVS. The new equation can represent soil characteristics that the softer soil has the longer predominant period, and can make better estimations for short periods than the existing method.

Key Words: Site Amplification Factor, Average Shear-wave Velocity, Frequency Characteristics, Strong-motion Records