

6. Study on Predicting Vibration during Construction Works

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Construction equipment that produces little vibration is actively being developed. On the other hand, ground vibration during construction works need to be assessed. In this paper, a numerical analysis method is proposed for assessing ground vibration. The method involves preparing input data using CIVIL3D or Nastran, analyzing vibration using SuperFlush3D/s, outputting the results in figures using CIVIL3D or Nastran. These operations are performed in a series of procedures.

Actual ground vibration was monitored at a site of construction work, and the precision of the analytical method was verified using the monitored data. A database on vibratory force was constructed based on the results of the analyses.

Key words : ground vibration during construction works, numerical method, thin layer element method