

1. Prediction of Velocities Ahead of Tunnel by Blastings

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There are some problems in the seismic refraction method generally conducted in the prior investigations of tunnel constructions, with the result that the estimated properties of rock mass are sometimes different from the actual ones.

Recently, new tomographic analyzing method has been developed to improve the problems. But, receivers and sources are installed on the surface in the prior investigation, so, it may be unable to obtain accurate velocities, when the burden is deep.

We carried out an additional seismic investigation method with using tunnel blasting as sources and installing receivers on the surface to raise a resolution of the velocity ahead of the tunnel face.

Key words : seismic velocity, tomography ,tunnel, blast