

SUBSURFACE EXPLORATION METHOD

ABSTRACT

A state of the ground is determined with high precision
5 to avoid misinterpretation of the ground. A subsurface
exploration method for nondestructively visualizing the ground
104 using the elastic wave 102 includes: installing a receiver
124 and a transmitter 120 that transmits an elastic wave 102
at known positions of the ground 104; causing the transmitter
10 120 to transmit the elastic wave 102; causing the receiver 124
to receive the elastic wave 102 having propagated through a
path 104A under the ground 104 from the transmitter 120 toward
the receiver 124; obtaining a damping factor D and a velocity
 V of the elastic wave 102 having propagated; setting a damping
15 factor threshold value D_{sh} and a velocity threshold value V_{sh}
for the damping factor D and the velocity V , respectively; and
comparing the damping factor and the velocity to the damping
factor threshold value D_{sh} and the velocity threshold value
 V_{sh} , thus determining a state of the ground 104.