

Elastic Wave Velocities of Apollo 12 Rocks at High Pressures

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Ultrasonic measurement of P- and S-wave velocities is made on the Apollo 12 rocks 12065 and 12052 to 10 kilobars pressure at room temperature. The elastic and anelastic properties of the Apollo 12 rocks are found to be remarkably similar to those of the Apollo 11 rocks with a similar composition; the velocities increase almost twofold for the first 2 kilobars. At pressures above 5 kilobars, the velocities approximate those of terrestrial basalts: 7 km/sec for P waves and 4 km/sec for S waves. At pressures below 200 bars, these rocks, like the Apollo 11 rocks, have a very high attenuation for elastic waves.

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