

P12 Experimental Demonstration of Shear Wave Generation by an Explosive Charge in a Rock Cavity

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Abstract:

Experiments were performed with 3/8-gram PETN explosive charges centered in an over-size 4:1 cylindrical cavity in homogenous Indiana limestone. Particle velocity in the rock was measured in both the cylindrically radial and axial directions with embedded copper wire loops and an external magnetic field. Time-integration of the velocity measurements provide particle paths that clearly demonstrate large transverse motion behind the initial p wave near the explosive cavity along a ray 45° from the charge equator, presumably a result of the non-spherical cavity shape.

Notes: