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## REFERENCES

- Ahrens, T. J., High-pressure electrical behaviour and the equation of state of magnesium oxide from shock wave measurements, *J. Appl. Phys.*, **37**, 2532-2541, 1966.
- Ahrens, T. J., and L. Thomsen, Application of the fourth-order anharmonic theory to the prediction of equations of state at high compressions and temperatures, *Phys. Earth Planet. Interiors*, **5**, 282-294, 1972.
- Ahrens, T. J., J. H. Lower, and P. L. Lagus, Equation of state of forsterite, *J. Geophys. Res.*, **76**, 518-528, 1971.
- Al'tshuler, L. V., S. B. Korner, M. I. Brazhnik, L. A. Vladimirov, M. P. Sperenskaya, and A. I. Funtikov, The isentropic compressibility of aluminum, copper, lead and iron at high pressures, *J. Exp. Theor. Phys.*, **38**, 1061-1073, 1960.
- Carter, W. J., S. P. Marsh, J. N. Fritz, and R. G. McQueen, The equation of state of selected materials for high-pressure references, *Accurate Characterization of the High Pressure Environment*, edited by E. C. Lloyd, *Nat. Bur. Stand. Spec. Publ. 32b*, 1971.
- Davies, G. F., Elasticity of solids at high temperatures and pressures, Ph.D. thesis, pp. 66-97, Calif. Inst. of Technol., Pasadena, 1972.
- Davies, G. F., Quasi-harmonic finite strain equations of state of solids, *J. Phys. Chem. Solids*, **34**, 1417-1429, 1973.
- Kusubov, A. S., and M. van Thiel, Measurement of elastic and plastic unloading wave profiles in 2024-T4 aluminum alloy, *J. Appl. Phys.*, **40**, 3776-3780, 1969.
- Leibfried, G., and W. Ludwig, Theory of anharmonic effects in crystals, *Solid State Phys.*, **12**, 275-444, 1961.
- McQueen, R. G., S. P. Marsh, J. W. Taylor, J. N. Fritz, and W. J. Carter, The equation of state of solids from shock wave studies, in *High Velocity Impact Phenomena*, edited by R. Kinslow, pp. 294-419, Academic, New York, 1970.
- Rice, M. H., R. G. McQueen, and J. M. Walsh, Compression of solids by strong shock waves, *Solid State Phys.*, **6**, 1-63, 1958.
- Schreiber, E., and O. L. Anderson, Revised data on polycrystalline magnesium oxide, *J. Geophys. Res.*, **73**, 2837-2838, 1968.
- Spetzler, H., Equation of state of polycrystalline and single-crystal MgO to 8 kilobars and 800°K, *J. Geophys. Res.*, **75**, 2073-2087, 1970.
- Thomsen, L., On the fourth-order anharmonic equation of state of solids, *J. Phys. Chem. Solids*, **31**, 2003-2016, 1970.
- Thomsen, L., The fourth-order anharmonic theory: Elasticity and stability, *J. Phys. Chem. Solids*, **33**, 363-378, 1972.

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