

## REFERENCES

- Rson, O. L., An accurate determination equation of state by ultrasonic measurements, in *Progress in Very High Pressure Research*, edited by Bundy et al., pp. 225-272, Wiley & Sons, Inc., New York, 1961.
- Rson, O. L., Use of ultrasonic measurements at modest pressure to estimate high-pressure, *J. Phys. Chem. Solids*, 27, 517, 1966.
- Rson, O. L., On the use of ultrasonic shock-wave data to estimate compressions at extremely high pressures, *Phys. Earth Plan. Interiors*, 1, 169-176, 1968.
- Sft, R. I., and C. A. Swenson, An experimental equation of state for sodium, *J. Phys. Solids*, 18, 329-344, 1961.
- F., The effect of pressure upon the elastic constants of isotropic solids, according to Murnaghan's theory of finite strain, *J. Appl. Phys.*, 9, 279-288, 1938.
- F., Elasticity and constitution of the earth's interior, *J. Geophys. Res.*, 57, 227-286, 1952.
- F., Some geophysical applications of high-pressure research, in *Solids Under Pressure*, edited by W. Paul and D. M. Warschauer, p. 62, McGraw-Hill Book Co., Inc., New York, 1963.
- an, P. W., The compression of twenty-one common compounds and eleven other substances to 10,000 kg/cm<sup>2</sup>, *Proc. Am. Acad. Sci.*, 76, 1-7, 1945.
- an, P. W., The compression of 39 substances to 100,000 kg/cm<sup>2</sup>, *Proc. Am. Acad. Sci.*, 76, 55-70, 1948a.
- an, P. W., Rough compression of 177 substances to 40,000 kg/cm<sup>2</sup>, *Proc. Am. Acad. Sci.*, 71-87, 1948b.
- en, G. L., and H. G. Drickamer, Effect of pressure on the volume and lattice parameters of magnesium, *Phys. Rev.*, 135(6A), A1613, 1964.
- er, H. G., R. W. Lynch, R. L. Clendenen, and A. Perez-Alberne, X-Ray diffraction study of the lattice parameters of solids under high pressure, in *Solid State Physics*, edited by F. Seitz and D. Turnbull, vol. 19, p. 3, Academic Press, New York, 1966.
- V., and H. G. Drickamer, Effect of pressures on the lattice parameters of Al<sub>2</sub>O<sub>3</sub>, *J. Phys.*, 43, 2265-2266, 1965.
- ., An investigation of finite strain in a material subjected to hydrostatic pressure and its seismological applications, *Aust. J. Phys.*, 7, 323-333, 1954.
- L. D., and E. M. Lifshitz, *Statistical Physics*, Pergamon Press Ltd., London, 1956, edition distributed by Addison-Wesley Co., Inc., Reading, Mass., 1958.
- d, J. R., Review of some experimental equations of state, *Rev. Mod. Phys.*, 41, 316-349, 1969.

## FINDING VOLUME OF SOLIDS

1569

- McQueen, R. G., and S. P. Marsh, Equation of state for nineteen metallic elements from shock-wave measurements to two megabars, *J. Appl. Phys.*, 31, 1253-1269, 1960.
- McWhan, D. B., Linear compression of  $\alpha$ -quartz to 150 kbar, *J. Appl. Phys.*, 38, 347-352, 1967.
- Manghnani, M. H., and W. H. Benzing, Pressure derivatives of elastic moduli of vycor glass to 8 kbar, *J. Phys. Chem. Solids*, 30, 2241-2245, 1969.
- Manghnani, M. H., E. Schreiber, and N. Soga, Use of ultrasonic interferometry technique for studying elastic properties of rocks, *J. Geophys. Res.*, 73(2), 824-826, 1968.
- Monfort, C. E., and C. A. Swenson, An experimental equation of state for potassium metal, *J. Phys. Chem. Solids*, 26, 291-301, 1965.
- Murnaghan, F. D., Compressibility of media under extreme pressure, *Proc. Natl. Acad. Sci., U.S.A.*, 30, 244-255, 1944.
- Rice, M. H., R. G. McQueen, and J. M. Walsh, Compression of solids by strong shock waves, in *Solid State Physics*, edited by F. Seitz and D. Turnbull, vol. 6, 1-60, Academic Press, New York, 1958.
- Rice, M. H., Pressure-volume relations for the alkali metals from shock-wave measurements, *J. Phys. Chem. Solids*, 26, 483-492, 1965.
- Soga, N., Pressure derivatives of the elastic constants of vitreous germanium at 25°, -78.5°, and -195.8°C, *J. Appl. Phys.*, 40(8), 3382-3385, 1969.
- Wackerle, J., Shock-wave compression of quartz, *J. Appl. Phys.*, 33, 922-937, 1962.

(Received September 24, 1969;  
revised November 25, 1969.)