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## REFERENCES

- Birch, F., Compressibility; Elastic constants, in *Handbook of Physical Constants, Mem. 97*, edited by S. P. Clark, Jr., pp. 97-173, Geological Society of America, Boulder, Colo., 1966.
- Jamieson, J. C., The crystal structures of high pressure modifications of elements and certain compounds, A progress report, in *Metallurgy at High Pressures and High Temperatures*, edited by K. A. Gschneidner, Jr., M. T. Hepworth, and N. A. D. Parlee, pp. 201-228, Gordon and Breach, New York, 1964.
- Jamieson, J. C., Structural transitions in solids at high pressures, in *Physics of Solids at High Pressures*, edited by C. T. Tomizuka and R. M. Emrick, pp. 444-458, Academic, New York, 1965.
- Jamieson, J. C., and B. Olinger, Pressure inhomogeneity: A possible source of error in using internal standards for pressure gages, in *Accurate Characterization of the High-Pressure Environment, Spec. Publ. 326*, edited by E. C. Lloyd, pp. 321-323, Nat. Bur. Stand., Washington, D.C., 1971.
- Olinger, B., and A. Duba, Compression of olivine to 100 kilobars, *J. Geophys. Res.*, **76**, 2610-2616, 1971.
- Olinger, B., and J. C. Jamieson, The relative compression of NaF and NaCl to 130 kilobars, *High Temp. High Pressures*, **2**, 513-520, 1970.
- Soga, N., Elastic constants of garnet under pressure and temperature, *J. Geophys. Res.*, **72**, 4227-4234, 1967.
- Takahashi, T., and L. Liu, Compression of ferromagnesian garnets and the effect of solid solutions on the bulk modulus, *J. Geophys. Res.*, **75**, 5757-5766, 1970.

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