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Chapter 10. Viscosity and density measurements of melts and glasses at high pressure and temperature by using the multi-anvil apparatus and synchrotron X-ray radiation Chapter 11. The effect of composition, compression, and decompression on the structure of high-pressure aluminosilicate glasses: an investigation utilizing ^{17}O and ^{27}Al NMR; Chapter 12. The application of ^{17}O and ^{27}Al solid-state ($^{3}\text{QMAS}$) NMR to structures of non-crystalline silicates at high-pressure; Part IV: Structural and magnetic properties
Chapter 13. Decompression of majoritic garnet: an experimental investigation of mantle peridotite exhumation Chapter 14. Chemistry at extreme conditions: approaching the Earth's major interface; Chapter 15. Pressure dependence on the magnetic properties of titanomagnetite using the reversible susceptibility method; Part V: Diffraction and spectroscopy; Chapter 16. High-pressure angle-dispersive powder diffraction using an energy-dispersive setup and white synchrotron radiation
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Sommario/riassunto

High-pressure mineral physics is a field that is strongly driven by the development of new technology. Fifty years ago, when experimentally achievable pressures were limited to just 25 GPa, little was known about the mineralogy of the Earth's lower mantle. Silicate perovskite, the likely dominant mineral of the deep Earth, was identified only when the high-pressure techniques broke the pressure barrier of 25 GPa in the 1970's. However, as the maximum achievable pressure reached beyond one Megabar (100 GPa) and even to the pressure of Earth's core on minute samples, new discoveries increasingly were
