



Neutron investigations of Earth materials at combined high pressure and temperature.

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The application of neutron powder diffraction to the study of mineral behaviour at high temperature and high pressure is reviewed. The characteristics of neutrons that make them particularly amenable to such studies are outlined, and recent technological developments in the attainment of extreme sample environments are discussed. These developments include the design of new high-pressure cells, hydrothermal cells, and furnaces that allow in situ diffraction under extreme conditions. The application of this technology to problems of order-disorder in minerals is illustrated in a series of recent examples.