

Water content effects on the compressibilities of ringwoodite and wadsleyite

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H₂O in mantle minerals may influence the elastic and the rheological properties of the mantle. Ringwoodite, which is a high pressure polymorph of olivine, can incorporate a large amount of hydroxyl in the crystal structure (Kudoh et al., 1998), as well as wadsleyite (Inoue et al., 1995). We reports here the experiments of an in-situ X-ray diffraction study under high-pressure using a diamond anvil apparatus to examine the elastic properties of hydrous ringwoodite.