

Determination of elastic constants for ferropericlase under pressure by means of inelastic X-ray scattering

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Elasticity is an important property of mantle minerals which contain a certain amount of iron. It is required to measure elasticity of opaque minerals at pressure conditions higher than that of the lower mantle. Inelastic X-ray Scattering (IXS) is a promising technique to determine elastic moduli of opaque minerals under the lower-mantle and the core pressure conditions. We have demonstrated the determination of elastic constants for ferropericlase under high pressure conditions by IXS. We will present an advanced analytical technique on IXS spectra as well.