

Pressure response of iron's hyperfine parameters in $(\text{Mg}_{0.87}\text{Fe}_{0.13})\text{SiO}_3$ orthopyroxene at room temperature

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Pressure response of isomer shift (IS) and quadrupole splitting (QS) in one site model and two sites model. The green triangle is the site's IS and the green diamond is the QS. The thick green bar denotes the QS distribution (FWHM) of one site model, and the thin green bar denotes the fitting error. The black dashed line denotes the QS distribution range of both M1 and M2 sites in two sites model, and the black solid line denotes the IS range in two sites model. The one site model gives reasonable Chi^2 values around 1 only for pressures larger than 9 GPa.

