Physical and chemical transformations of compressed compounds

Pressure is one of the most basic thermodynamic parameters. Can we predict the pressure-induced transformations? The Le Chatelier principle states that the transformations relieve the external stimuli by adjusting the equilibrium of the system. It is most often exemplified by the ammonia synthesis. The same principle can be used to rationalise the structural transformations in compressed crystals [1].

The extent of changes and their classification depend on the interactions and range of pressure, as will be exemplified for a series of high-pressure structural determinations.

[1] A. Katrusiak, Intermolecular interactions and augmented support in compressed crystal structures, Coordination Chemistry Reviews 553 (2026) 217520.