N. D. Chatterjee: Applied Mineralogical Thermodynamics

Mineralogical thermodynamics evolved into a mainstream discipline of earth sciences during the last four decades. In response, the curricula in many universities now prescribe a course on basic chemical thermodynamics to the students of geochemistry and petrology. With that background in mind, this book introduces the beginners to the thermodynamic treatment of equilibria between minerals and fluids. The emphasis throughout is on "learning by doing". The book should be equally suitable for a thermodynamics course or for self-study.

Selected topics: The basic concepts. – Measurement, evaluation, and tabulation of thermodynamic properties. – Equations of state for fluids and fluid mixtures. – Derivation of an internally consistent thermodynamic dataset by mathematical programming. – Thermodynamics of crystalline solutions. – Computation of phase equilibria between minerals and fluids. – Outlines of geothermometry and geobarometry.

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