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Sommario/riassunto	This book provides an analysis of an actual problem of the evolution of deep matter under the conditions of the upper mantle, transition zone, and uppermost lower mantle. This issue has a fundamental importance in geochemistry, petrology, mineralogy, and crystalochemistry of the mantle, at different depths. The authors discuss new experimental research on the composition and conditions of the chromium-bearing minerals genesis and their associations in the Earth’s mantle. The experimental data are compared with the natural mineral assemblages, allowing a refinement of the structure and composition of the deep Geospheres of the Earth. The results of the physicochemical experiments in the "MgO–SiO2–Cr2O3" model and the multicomponent systems play a major role in understanding the phase diagrams of these systems, the structural patterns of chromium-bearing phases and the influence of Cr on P-T parameters in the Earth’s mantle.