Deep Earth: Physics and Chemistry of the Lower Mantle and Core. Geophysical Monograph Series

Description: Deep Earth: Physics and Chemistry of the Lower Mantle and Core highlights recent advances and the latest views of the deep Earth from theoretical, experimental, and observational approaches and offers insight into future research directions on the deep Earth. In recent years, we have just reached a stage where we can perform measurements at the conditions of the center part of the Earth using state-of-the-art techniques, and many reports on the physical and chemical properties of the deep Earth have come out very recently. Novel theoretical models have been complementary to this breakthrough. These new inputs enable us to compare directly with results of precise geophysical and geochemical observations. This volume highlights the recent significant advancements in our understanding of the deep Earth that have occurred as a result, including contributions from mineral/rock physics, geophysics, and geochemistry that relate to the topics of:

I. Thermal structure of the lower mantle and core
II. Structure, anisotropy, and plasticity of deep Earth materials
III. Physical properties of the deep interior
IV. Chemistry and phase relations in the lower mantle and core
V. Volatiles in the deep Earth

The volume will be a valuable resource for researchers and students who study the Earth's interior. The topics of this volume are multidisciplinary, and therefore will be useful to students from a wide variety of fields in the Earth Sciences.

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