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Deep Earth and Mineral Physics

Jay D. Bass and John B. Parise, Guest Editors



Deep Earth and Recent Developments in Mineral Physics

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Jay D. Bass and John B. Parise



Elastic Properties of Minerals: A Key for Understanding the Composition and Temperature of Earth's Interior

Jay D. Bass, Stanislav V. Sinogeikin, and Baosheng Li



The Upper Mantle and Transition Zone Daniel J. Frost

ABOUT THE COVER: The Earth, with a cutout revealing schematic features of the mantle and core. Colors in the mantle indicate seismic velocity heterogeneity, with red tones being slower than average velocity (possibly warm, buoyant or chemically distinct material) and bluish tones being faster than average velocity (possibly cold, sinking material and postperovskite phase in the very deep mantle). The spirals represent the fluid motions in the outer liquid core that generate the magnetic field. ARTWORK COURTESY OF ED GARNERO, ARIZONA STATE UNIVERSITY.



The Earth's Lower Mantle and Core

Guillaume Fiquet, François Guyot, and James Badro



Discovery of Post-Perovskite and New Views on the Core-Mantle Boundary Region

Kei Hirose and Thorne Lay



Laboratory Studies of the Rheological Properties of Minerals under Deep-Mantle Conditions

Shun-ichiro Karato and Donald J. Weidner

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