Special Issue

Properties of Melt and Minerals at High Pressures and High Temperatures

Message from the Guest Editor

High pressure, high temperature mineralogy has long played an essential role in our understanding of planetary interiors. As developments in high-pressure, high-temperature methods continue to emerge, we continue to broaden our insights on how the properties of minerals vary with depth from crust to mantle to core. Along with comparable advances made to analytical methods, we have reached levels of accuracy and precision in the determination of properties at extreme conditions that allow for a much sharper comprehension of Earth's and other planetary interiors. Silicate melts are critical components in nearly every igneous process, particularly at conditions of high pressure. During Earth's period of accretion silicate melts served as transport media leading to its chemical differentiation and formation of the core, mantle and crust. Like many minerals, the physical properties of silicate melts can be very sensitive to pressure, especially at conditions favoring the transformation of tetrahedral cations to pentahedral and octahedral species.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Minerals welcomes submissions that report basic and applied research in mineralogy. Research areas of traditional interest are mineral deposits, mining, mineral processing and environmental mineralogy. The journal footprint also includes novel uses of elemental and isotopic analyses of minerals for petrology, geochronology and thermochronology, thermobarometry, ore genesis and sedimentary provenance. Contributions are encouraged in emerging research areas such as applications of quantitative mineralogy to the oil and gas, manufacturing, forensic science, climate change, geohazard and health sectors.

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