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Zircon Petrochronology: Applications to Magmatic and Metamorphic Processes and Crustal Evolution

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Deadline for manuscript submissions:
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Message from the Guest Editors

Zircon has been the premier U-Pb geochronometer for over five decades, offering one of the most robust and precise methods of dating geological processes. More recently, zircon trace element composition has been increasingly utilized as a recorder of its paragenetic chemical environment and thermal conditions, characteritics which may be lost in the host rock mineralogy due to subsequent recrystallization and alteration or the detrital nature of the zircon. The hafnium isotope composition of zircon also enables evaluation of the parent magma genesis and provides insight into the secular evolution of crust–mantle interactions. With the advancement of in situ analytical methods, an entire U-Pb-TE-Hf dataset can be extracted from the same micron-scale volume of zircon, and commonly from multiple distinct domains within a single grain. In this issue, we invite contributions highlighting novel applications of coupled zircon age and compositional data to complex geological research questions, as well as advancements in analytical methodology that expand the applicability of zircon data.

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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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