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# Geochemistry and Geochronology of High-Grade Metamorphic Rocks

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Deadline for manuscript

#### Message from the Guest Editors

There exist many well-preserved upper amphibolitegranulite facies metamorphic rocks in the Phanerozoic orogens worldwide, implying a range in the spatiotemporal distribution of the high-grade metamorphism. At higher temperatures, rocks tend to melt, and dealing with silicate melts is the subject of igneous petrology. However, partial melting has always been both a metamorphic and an igneous aspect. Crustal rocks that are characteristically produced via partial melting are made up of a residual metamorphic rock and an igneous rock component, which serves as a key for linking metamorphism and magmatism. Nevertheless, the melting temperatures of rocks define the high-temperature limit of metamorphism. Melting temperatures are strongly dependent on pressure, rock and the amount of water present. composition, Geochemistry and geochronology of the high-grade metamorphic rocks in the middle and lower crust can reconstruct the scenery of structure and composition of the lower crust and crust-mantle interaction, let alone the benefits from deciphering high-temperature processes, including migmatite and granulite formation, crustal anatexis, and melt extraction.



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