

## **Petrogenesis of anorthosites of the Kunene Intrusive Complex, Namibia/Angola**

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The apparent restriction of massif-type anorthosites to the Proterozoic testifies to specific crust-forming processes operating during this period. However, no general agreement has been reached yet on issues such as formation of parental magmas, monobaric vs. polybaric crystallisation, and cooling history. The Kunene Complex, Angola/Namibia experienced no prograde metamorphic overprint after its emplacement at c. 1390 Ma and hence allows to study the igneous processes that led to its formation.

Using Rb-Sr-, Sm-Nd- and Pb-Pb-isotopic analysis and systematic age determinations we have been investigating the source and the physical conditions for the generation of the anorthositic magma. Hereby, combined determinations of the REE patterns and O-, Rb-Sr, and Sm-Nd-isotope data of the major phases of the anorthosites provided significant information about processes like igneous crystallisation, crustal contamination, and subsolidus alteration of the rocks. In order to unravel the source and relationship of associated Fe-Ti ores we additionally analysed their trace element and Re-Os isotopic composition. Results of this study place constraints on the composition of the mantle and crust-forming processes active during the Proterozoic.

Further information:

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