

## REE DISTRIBUTION IN THE VIRFUL PIETRII MASSIF, SOUTHERN CARPATHIANS, ROMANIA

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The Virful Pietrii Massif belongs to the old granitoids of the Southern Carpathians. It intruded in the Precambrian crystalline formations of the Upper Danubian Units, the Zeicani, Godenele, Magura-Marga and Barnita Series.

Petrographically it is composed of granitoid rocks such as: muscovite (biotite) granites, muscovite (biotite) granodiorites and sometimes diorites. A specific feature of this massif is its leucocratic character, mainly due to reduced proportion of mafic minerals. Mineralogical and petrographical characteristics reflect bulk chemical composition of initial magma and its evolution.

All major chemical variations point to evolution of a calc-alkaline magma; REE content is typical of granitic rocks and no major differences exist between the identified petrological types. The calculated ratios ( $Ce_N/Yb_N = 1.983-15.807$ ;  $Eu_N/Sm_N = 1.790-0.397$ ) suggest large variations but that is not typical of the studied rock types. Only few of the REE patterns show enrichment in LREE. This, along with absence of an Eu anomaly (except for two samples), points to no residual plagioclase and some hornblende and garnet being present in the initial source. Some correlations between REE elements and minor elements such as Nb and Ta, trace element ratios (Nb/Y, Ta/Yb), and the position in rock/ORG diagram suggest the Virful Pietrii granitoid is of volcanic arc origin (VAG).