

Comments of the reviewer

Granulitic rocks and associated ultrabasic rocks in the north Bohemia have not been, in contrast with the area of Moldanubicum, object of a more intensive geological investigation for a long time. Especially there was missing a modern petrological work making use of a microprobe, as well as a more detailed structural geological and geochemical characteristics. From this point of view, there can be no doubt about relevance of the chosen topic of presented work. Taking into account the increased interest of foreign geologists (especially German) in this area it can be stated, that this work – as a subject of a PhD thesis – has come in the right time, and immediate publication of its results was highly desirable.

Right in the beginning of my comments I would like to stress, that the aims of the work, pointed out as a succession of yet unsolved questions in the introduction of the work, were fulfilled by more than hundred per cent. It is evident at first glance that the author has made a full use of valuable comments of a number of experienced foreign specialists, which was facilitated by the fact that the thesis itself was written in English.

The methods of work on the problem were chosen purposefully, and they have a character of a complex (petrological, structural, geochemical) investigation. Especially the petrological part has been treated on a high professional level and is comparable with results in the international context.

The results of the work bring answers on a number of questions that were posed, and many new information and suggestions for future research. Personally, I consider very important for instance:

- Finding of a higher equilibration temperature of basic granulites compared to the other members of granulitic assemblage. This independently speaks for the hypothesis made for Moldanubicum on the basis of geochronological studies, that the rocks in question are syn-HP-metamorphic intrusive rocks.

- Finding of the existence of dehydration melting of a limited extent linked to the decompression phase under the conditions of granulite facies metamorphism.

- The major volume of A-type granulites has a composition of the wet granite minimum, presence of dry non-eutectic melts was not observed and is probably associated with HT-MP metamorphism, which does not affect the studied complex, in contrast with the Moldanubicum.

- Evidence for a collisional regime of the formation of granulites under the conditions of crustal duplex.

- Evidence for the rapid uplift of the complex, which considerably exceeds velocities corresponding to the relaxed geotherm of the thickened continental crust.

- Evidence for the tectonic exhumation of the rocks, which does not support their extensional or transtensional regime and speaks rather for the transpressional one.

Work in a whole and in its individual parts represents a considerable contribution to the understanding of the chosen problem.

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