



Exhumation history of Cer and Bukulja mountains (Western and Central Serbia)

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The main objective of this study is reconstruction of the low-temperature thermal histories of Cer and Bukulja mountains that are part of the northeastern margin of the Dinarides in western and central Serbia. This region represents the boundary zone between the European derived tectonic units and the lower Adriatic plate, and has experienced complex evolution after the final collision of the two plates in the early Cenozoic. This includes top-to-east extension, accompanied by significant exhumation along low-angle detachments.

Cer and Bukulja are inselbergs of meta-sedimentary rocks and represent source areas for adjacent Miocene basins such as Valjevo and Morava basins. Metamorphic rocks of Cer and Bukulja are also intruded by granitic bodies that share similar characteristics. They are both S-type granites dated at 19-16 Ma (Cvetkovic et al., 2007; Koroneos et al. in press).

The main task in this phase of the research is to reconstruct exhumation histories of the source areas. In order to achieve that zircon and apatite fission-track and U-Th/He analyses are performed on metamorphic rocks and granites from both regions. The results of measurements will be compiled into a synthetic time-temperature diagram illustrating the Cenozoic thermal history of the region. At that time we will be able to correlate the data of this research with synchronous tectonic events in the region such as synrift phase of sedimentation of the Pannonian Basin, described previously by various authors (Blanchet et al., 1970; Neubauer et al., 2003). By expanding the research area to the sedimentary basins adjacent to the inselbergs it will become possible to determine where were the main sources of sediments that filled in the basins.