Geochronology (U/Pb, $^{40}Ar/^{39}Ar$) of sinkinematic granites from collision orogens: constraints from caledonides of western Cisbaikalia

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Ol'khon region is attributed to early caledonides of western Cisbaikalia. The region is located at south margin of Siberian craton. It was formed by accretion/collision events connected with closing of Paleoasian Ocean [1-3]. The structures of the area are considered to be a accretion/collision collage combining tectonic units of different genesis (granulite, amphibolite metamorphic facies). Sintectonic granites are related to three stages: (1) D_n –folding overthrust type (relict), (2) D_{n+1} – sintectonic granite-gneiss diapires, (3) D_{n+2} – sintectonic strike-slip left lateral deformations.

The U/Pb zircon (single grain) age of the first type granites (D_n) defined to be equal to 490-480 Ma. For sintectonic granites (D_{n+3}) from Shibetsky cape (Ol'khon island) we ascertain thermochronologic trend: t_1 = 550±5 Ma (U-Pb, protholith age), t_2 = 455±5 Ma (U-Pb, magmatic age), t_3 = 398±4 Ma ($^{40}Ar/^{39}Ar$, biotite, postmagmatic strike-slip deformations). Data obtained confirm to close connection of granite formation with accretion/collision orogenic events.

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