

A preliminary reassessment of the Siberian cratonic basement with new U-Pb-Hf detrital zircon data

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New and compiled U-Pb-Hf detrital zircon data from provincial Meso- to Neoproterozoic sedimentary basins of the Siberian platform are presented to characterize the buried crust of the basement. Along the northwestern Siberian cratonic margin (Turukhansk uplift, Yenisei Ridge) the basins accumulated predominantly 2.6 – 2.5 Ga zircons with $\epsilon\text{Hf}(T)$ values of + 3 to – 7, and 1.9 – 1.85 Ga zircons, characterized by $\epsilon\text{Hf}(T)$ values of – 10 to + 10. In the southwestern part of the craton (Prisayan uplift), similar 1.9 - 1.85 Ga and older Archean zircons are common, whereas in the eastern part older Paleoproterozoic zircons of 2.15 - 1.95 Ga with minimum $\epsilon\text{Hf}(T)$ values of – 25 are widespread. The unique detrital age spectra for various parts of the craton provide a basis for unravelling the age of buried domains of the Siberian craton. A correlation of isotopic records from different domains, combined with geological evidence, may suggest that the craton consists of (1) the Archean unit, younging toward the present north-western direction and (2) three N-S-trending Paleoproterozoic collisional belts, extending along its western (the Angara belt) and eastern (the Hapchan belt) margins, and in the middle of the craton (the Magan belt). The study was supported by Australian Research Council grant ARC DP120104004 and RFBR grant N 19-05-00521.