

## U-Pb SIMS dating of granitoids from eastern Blekinge, southern Sweden

Å. JOHANSSON

*Department of Earth Sciences, Swedish Museum of Natural History, Box 50 007, SE-104 05 Stockholm, Sweden; ake.johansson@nrm.se*

Zircons from seven granitoids in eastern Blekinge, previously dated by conventional multi-grain thermal ionization mass spectrometry (TIMS) to in most cases rather imprecise ages between 1.78 and 1.65 Ga (Kornfält 1993, 1996), have been redated using secondary ion mass spectrometry (SIMS) spot analysis. The analyzed rocks include one Småland granitoid from north of the Småland-Blekinge Deformation Zone (SBDZ), and six “Småland-type” granitoids from within the Tving granitoid area south of that zone: two samples of megacrystic “Filipstad-type” granite, one sample of the medium-grained Rödeby granite, and one sample each of the fine- to medium-grained, leucocratic and in part strongly foliated Almö, Tjurkö and Jämjö granites. The results yield a crystallization age of  $1776 \pm 6$  Ma for the Småland granitoid north of the SBDZ, in agreement with the previously obtained TIMS age, and magmatic crystallization ages between  $1770 \pm 4$  and  $1758 \pm 6$  Ma for the other granitoids, in most cases substantially older than previous TIMS ages. These data show that the “Småland-type” granitoids in eastern Blekinge are similar in age to the surrounding Tving granitoids (Johansson & Larsen 1989; Johansson et al. 2006), and the more felsic of them may represent late-stage differentiates belonging to the same magmatic suite. As the Tving granitoids show differences, not only in degree of deformation, but also in geochemistry (Lindh et al. 2001; Kornfält & Bruun 2002) and possibly in age, when compared with the Småland granitoids north of the SBDZ, it is suggested that these represent two separate but closely related igneous suites, which could both be included within a TIB-1 supersuite.

The investigated zircons showed very limited signs of metamorphic overgrowths, and no metamorphic ages could be determined. However, the combined evidence from field observations combined with earlier U-Pb geochronology (Johansson et al. 2006) would suggest the presence of two separate metamorphic episodes in Blekinge, one in close connection with the formation of these rocks at 1.76 – 1.75 Ga, and one connected to the intrusion of the Karlshamn granitoid suite at around 1.45 Ga.

### References:

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