

# Zircon CHIME dating of durbachite from the Třebíč Pluton, Central European Variscides

M.A. KUSIAK<sup>1,3</sup>, K. SUZUKI<sup>1</sup>, V. KACHLIK<sup>2</sup>  
AND A. KĘDZIOR<sup>3</sup>

<sup>1</sup>Nagoya University Center for Chronological Research,  
Nagoya, Japan; mkusiak@nendai.nagoya-u.ac.jp,  
suzuki@nendai.nagoya-u.ac.jp

<sup>2</sup>Charles University, Department of Geology, Praha, Czech  
Republic; kachlik@natur.cuni.cz

<sup>3</sup>Polish Academy of Sciences, Institute of Geological  
Sciences, Krakow, Poland; ndkedzio@cyf-kr.edu.pl

Durbachite, a distinct type of ultrapotassic plutonic rock, occurs widely in Moldanubian Zone that represents the orogenic root of the Central European Variscides. Emplacement of the Třebíč Pluton postdates granulite-facies metamorphism (350-340 Ma) [1] and the emplacement of calc-alkaline plutons (350-330 Ma) in the area. The Třebíč Pluton has yielded U-Pb zircon ages of  $340\pm 8$  Ma [2]; however, durbachite is known to contain complex zircon grains with discordant U-Pb ages [3]. In this study, durbachite was sampled from the north margin of the Třebíč Pluton at Velke Meziříčí. Separated zircon was dated by CHIME (chemical Th-U-total Pb isochron method).

Zircon occurs as skeletal and euhedral crystals 0.1-0.3 mm in length. Most grains have concentric growth zoning. Analyses were carried out on a JEOL JCXA-733 EPMA with 4 WD spectrometers, operated at 15 kV accelerating voltage, 0.2  $\mu$ A probe current and with a defocused 3  $\mu$ m beam diameter. UM $\beta$ , ThM $\alpha$  PbM $\alpha$  and YL $\alpha$  lines were measured simultaneously with PET crystals and sealed Xe X-ray detectors. CaK $\alpha$ , SK $\alpha$ , KK $\alpha$ , ZrL $\alpha$ , SiK $\alpha$  and NbL $\beta$  lines were also measured. Of 160 spots on 8 grains, 123 spots contain detectable amounts of Pb (PbO > 0.003 wt%). Of these, 90 spots with low CaO (< 0.05 wt%) and K<sub>2</sub>O (< 0.03 wt%) were chosen for age calculation. These spots contain 0.006 to 0.726 wt% ThO<sub>2</sub>, 0.122 to 1.132 wt% UO<sub>2</sub>, 0.0046 to 0.0639 wt% PbO and 0.006 to 0.263 wt% Y<sub>2</sub>O<sub>3</sub>. Data regression yields an isochron of  $332\pm 14$  Ma. The CHIME zircon age matches the 335 Ma zircon U-Pb age for genetically related syenite within the Třebíč Pluton and  $334\pm 2.5$  Ma for durbachite in the alpine domain [4].

This research has been carried out thanks to a JSPS grant.

## References

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