

## **A new natural reference material for U-Pb geochronology: monazite from the Skalna Brama pegmatite, the Sudetes, Poland**

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Monazite is an anhydrous phosphate of rare earth elements (REE), mostly cerium (CePO<sub>4</sub>). It is ideal for U–Pb geochronology due to the relatively high U, Th and radiogenic Pb contents, and the extremely low Pb diffusivity. Although several reference monazites are currently available, the recent increasing interest in monazite geochronology makes it necessary to establish a new standard. We analysed monazite grains from the Skalna Brama pegmatite in the Karkonosze-Izera Massif to test its suitability as a new standard. They are mm to cm in size, crystalline (non-metamictic) and chemically homogeneous. We obtained an age of 311 Ma with concordant U–Pb system and low common Pb content. These characteristics indicate that the Skalna Brama monazite can be used as a new reliable standard for monazite geochronology.