

## Peixe zircon: new Brazilian reference material for U-Pb geochronology by LA-SF-ICP-MS

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Zircon grains from Peixe Alkaline Complex in the Brazilian state of Tocantins were studied in an attempt to launch a new material for quality control of the U-Pb geochronology routine in the IGL (Photon Machines Excite.193 with a two volume HelEx LA coupled with a Thermo Scientific Element XR ICP-MS).

From January 2016 until March 2017, two fragments of the Peixe zircon have been analysed along with the unknowns as quality control material, 441 ages were obtained. As routine, the laser was set up at 10Hz frequency, spot size of 25 µm and fluence of 4.74 J cm<sup>-2</sup>. The ablation time was 60 s (20 s for gas blank and 40 s for sample ablation). The reference zircon 91500 was used for external calibration and data were reduced off-line using Iolite2.5/VizualAge.

The 441 results defined average concordant <sup>206</sup>Pb/<sup>238</sup>U and <sup>207</sup>Pb/<sup>235</sup>U ages of 571 ± 10 Ma (2%) and 568 ± 10 Ma (2%), respectively. To complement the previous experiments, fragments from 6 different zircons were studied within the same protocol. The results (20 determinations per zircon) are graphically presented in the figure below, showing good agreement with the results of the historic experiment, as well as with data from literature. Stands out the high homogeneity intragrain and among them.

Several trace elements were also determined to verify the level of homogeneity of each grain.

