

# U-Pb SHRIMP II dating of detrital zircon from Santa Catarina quartzite

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**RESUMO:** Three methods were used to dating of 2BBV40 zircon sample: Thermal Ionization Mass Spectrometer (TIMS), Laser Ablation-Ion Coupled Plasma-Mass Spectrometer (LA-ICP-MS) and Sensitive High Resolution Ion Microprobe (SHRIMP). The TIMS analytical procedures are based on Krogh technique, with small modifications including the use of mixed  $^{205}\text{Pb}$  -  $^{235}\text{U}$  spike and anion exchange small column. The U-Pb results show in concordia diagram yielded a concordia age of  $2182 \pm 9$  Ma not so different from the LA-ICP-MS concordia age of  $2199 \pm 16$  Ma. The GJ1 zircon was used as U/Pb isotopic reference standard (600Ma) during LAICPMS analyses. 109 zircon crystals were analyzed by SHRIMP determination. The U concentration ranged from 30 to 470 ppm with mean value of  $205 \pm 0.85$  ppm and  $^{232}\text{Th}/^{238}\text{U}$  ratios from 0.1 to 1.70. 85 of 109 spots are concordant and they yielded a concordia age of  $2193 \pm 5.7$  Ma. The  $^{207}\text{Pb}/^{206}\text{Pb}$  weighted average age is  $2191.9 \pm 2.5$  Ma (mean of 102 spots), therefore very close with the concordia age. The 2BBV40 transparent zircon crystals show quite homogeneous U-Pb isotopic composition and a  $^{207}\text{Pb}/^{206}\text{Pb}$  weighted average age of 2192 Ma. Additional work is in progress to test if 2BBV40a can be used as a Paleoproterozoic Brazilian internal laboratory standard.

**PALAVRAS CHAVE:** SHRIMP, LA-ICP-MS, DETRITAL ZIRCON