

## Validation of X-ray interference correction methods in EPMA-CHIME dating

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The CHIME dating method provides micro-volume non-destructive U-Th-Pb dating based on quantitative electron probe microanalysis (EPMA). X-ray interference is a significant problem for the accuracy of the EPMA-CHIME dating. X-ray interferences are generally corrected using (1) peak-separation technique, (2) X-ray intensity based method[1], or (2) chemical composition based method[2]. X-ray interferences by Th and Y are validated using synthetic standard materials. X-ray intensity based correction highly depends on chosen standard materials in the determination of correction factors. On the contrary, the chemical composition based method is less sensitive to chosen standard materials.

[1] Åmli & Griffin, W.L. (1975) *Amer. Mineral.*, 60, 599.

[2] Donovan, J.J., Snyder, D.A. & Rivers, M.L. (1993) *Microbeam Anal.*, 2, 23.

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