Comment on gchron-2021-32
Anonymous Referee #1

Referee comment on "Technical note: Quantifying Uranium-series disequilibrium in natural samples for dosimetric dating – Part 1: gamma spectrometry" by Barbara Mauz et al., Geochronology Discuss., https://doi.org/10.5194/gchron-2021-32-RC1, 2021

Gamma spectrometry is used in many laboratories in the context of paleodosimetric dating methods to determine the content of natural radioelements (U, Th, K) at the origin of dose rates, as well as the disequilibria that often exist within the uranium series. However, the rare comparisons of radioelement contents carried out by different laboratories show sometimes significant discrepancies, hence the need to standardise gamma-ray spectrometry procedures. This is the main objective of this technical note which recalls the basics of this technique, as well as a set of practical procedures. This note will therefore be of particular interest to novice users of this technique, but also to more experienced users who might find here avenues for improving their practices and/or their system analysis and data interpretation.

Possible improvements: the word "background" has two different meanings in the text: it corresponds either to counts present in the neighbouring but outside of the peaks of interest, or to a counting performed in the absence of a sample. Since this imprecision could be a source of confusion, an improvement of the text could be welcome on this particular point.

Line 261: Avogadro