Supplement: Spatially Resolved Infrared Radiofluorescence: Single-grain K-feldspar Dating using CCD Imaging

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2020-12-31

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1 Additional figures

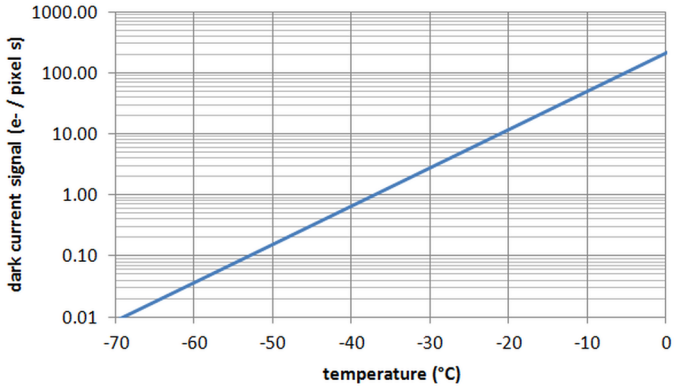

Figure S1: Approximated dependency of the dark current on the chip temperature of the EM-CCD camera.

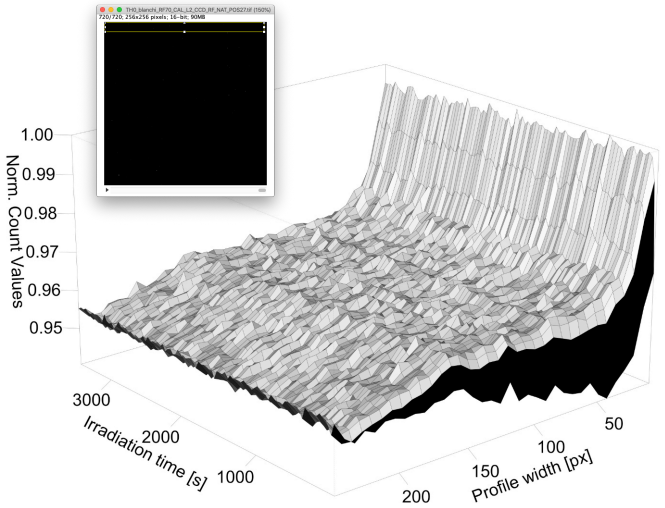

Figure S2: Normalised IR-RF background recorded over 3,600 s. The background profile is the sum signal of the rectangle pixel selection shown in the inset. The background signal noise is not homogeneous over the chip surface, indicating a problem with the cooling or sealing of the optics from external stray light. However, over the recorded 3,600 s, the signal decay is around 0.05% and considered stable.

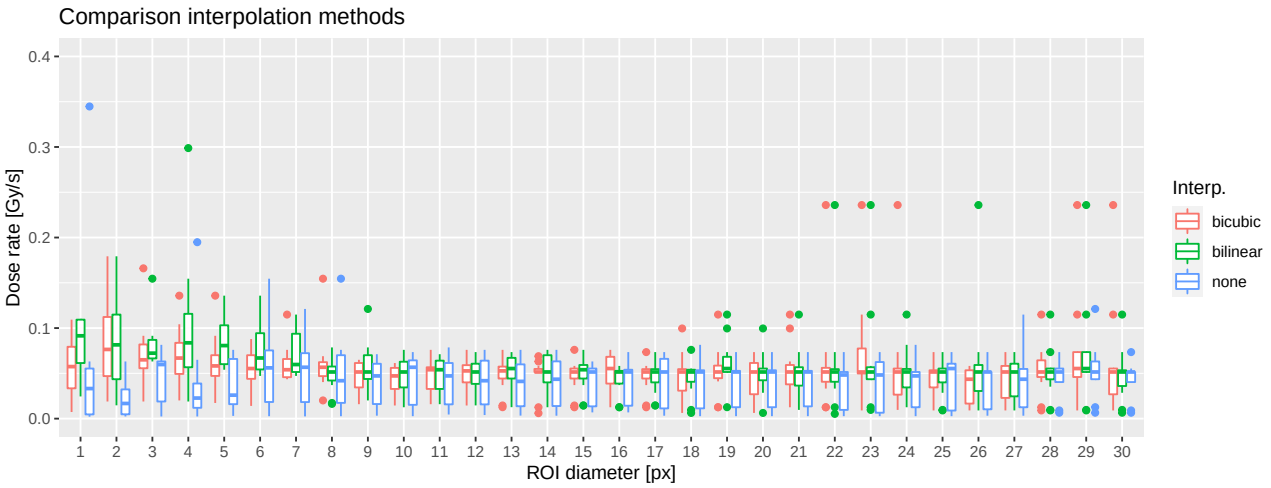

Figure S3: The figure shows boxplots of the source dose rate measured with the sample TH0 for three different signal interpolation types used for the image alignment. The bicubic interpolation seems to provide the most stable results, while no interpolation less to a significant scatter and unrealistic dose rate results.

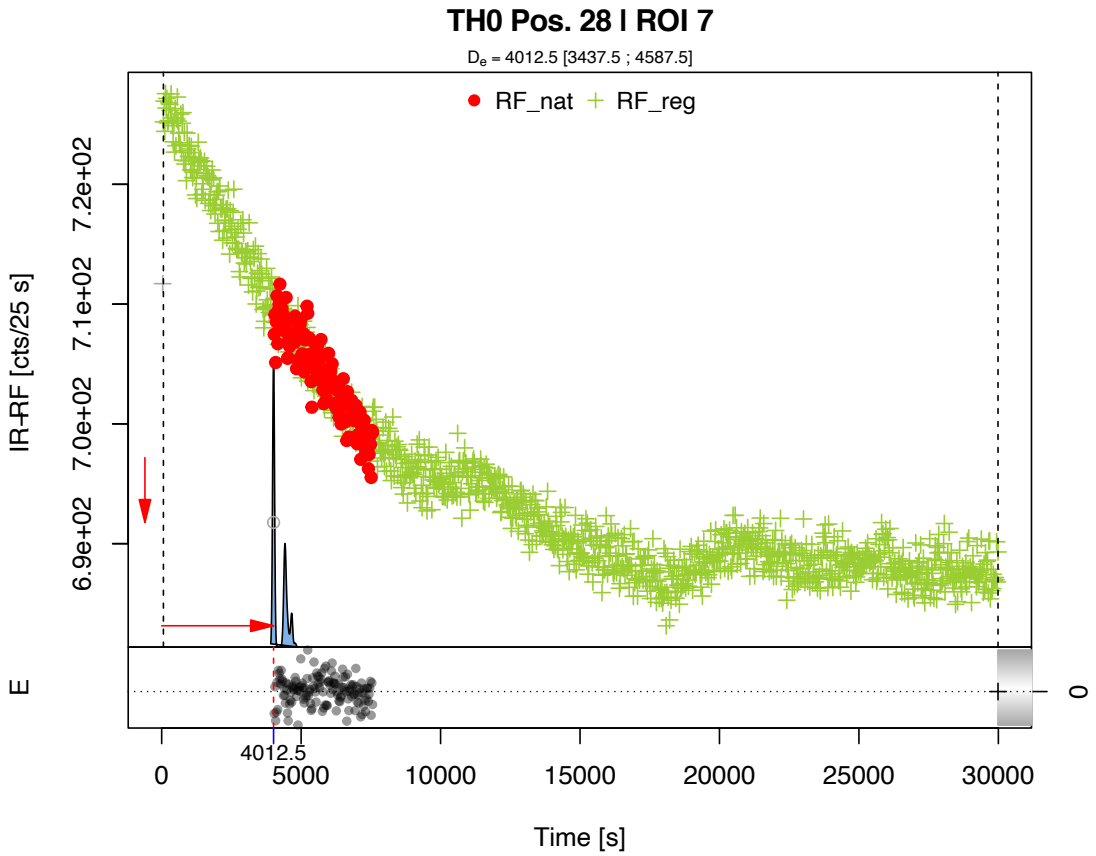

Figure S4: Example of an IR-RF curve extracted from an image (here ROI 7, cup on pos 28 on the sample carousel) of sample TH0. Due to the cooling system's degradation, the background signal varied considerably, rendering the measured curves unusable for further analysis.

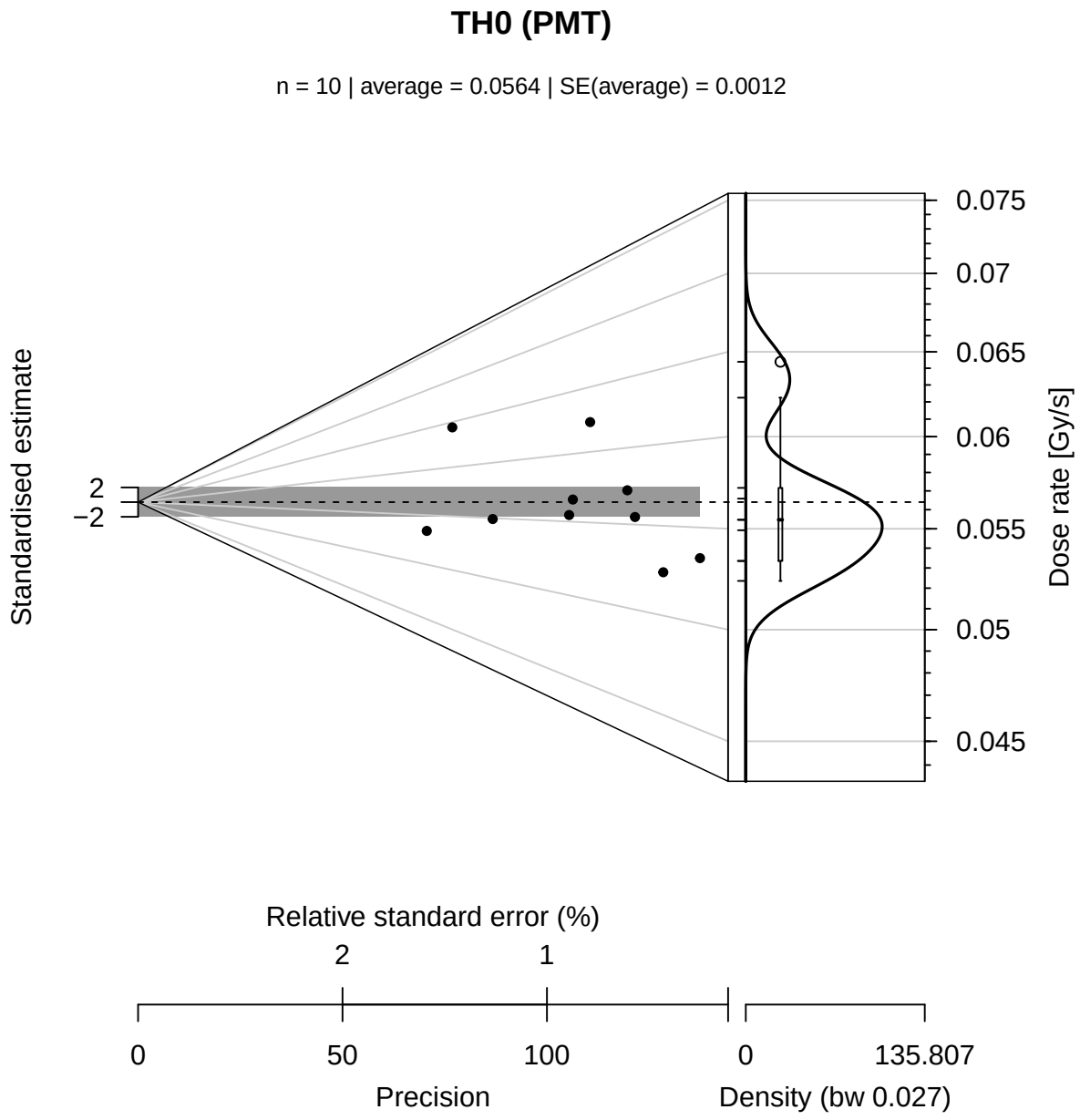

Figure S5: TH0 IR-RF measurement results. The IR-RF curves were measured with the PMT; in total, ten aliquots. The average dose was calculated with the average dose model. SE indicates the standard error as returned by the average dose model. Further details see the manuscript.