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14. ABSTRACT
The main findings of this Short Term Innovative Research are important steps in experimental design. Evaluating grain to grain variation in sensitivity to luminescence is critical to evaluating young and zero age samples. Differentiating grains that have no signal because they are not sensitive from grains that were fully bleached resulted in the need for extra measurements. Repeated bleaching and dosing cycles were conducted on single and multi-grain aliquots and a dose recovery was conducted on each aliquot after measuring the natural signal with the single aliquot regenerative dose method. Many recommendations for future work include making more

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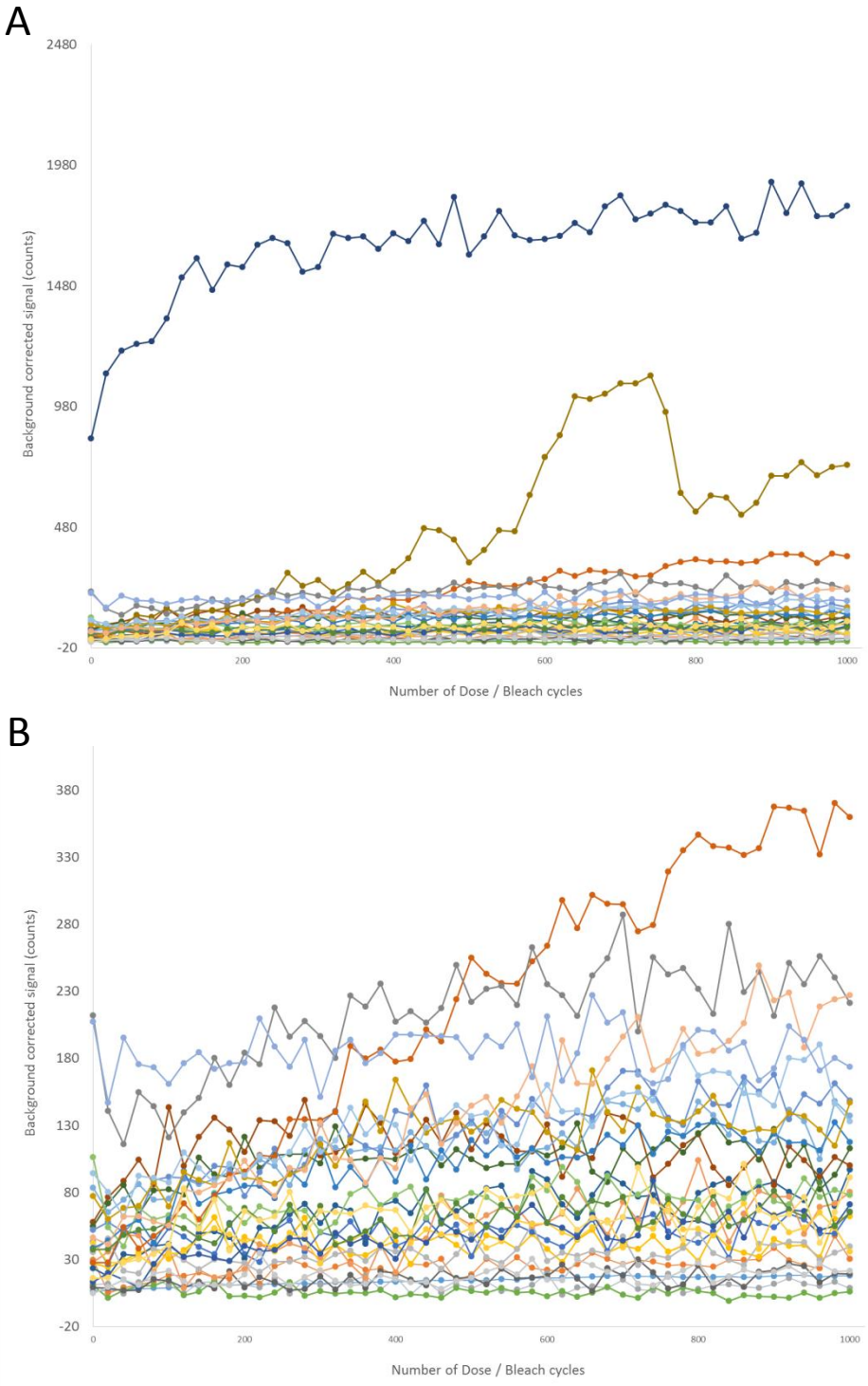

Fig. 1. The luminescence signal measured at 20 cycle intervals of 1000 bleaching and dosing cycles repeated on single grains is shown with highly sensitive outliers in A and without outliers in B. While there is an overall increase in sensitivity, the average increase is only ~2%.

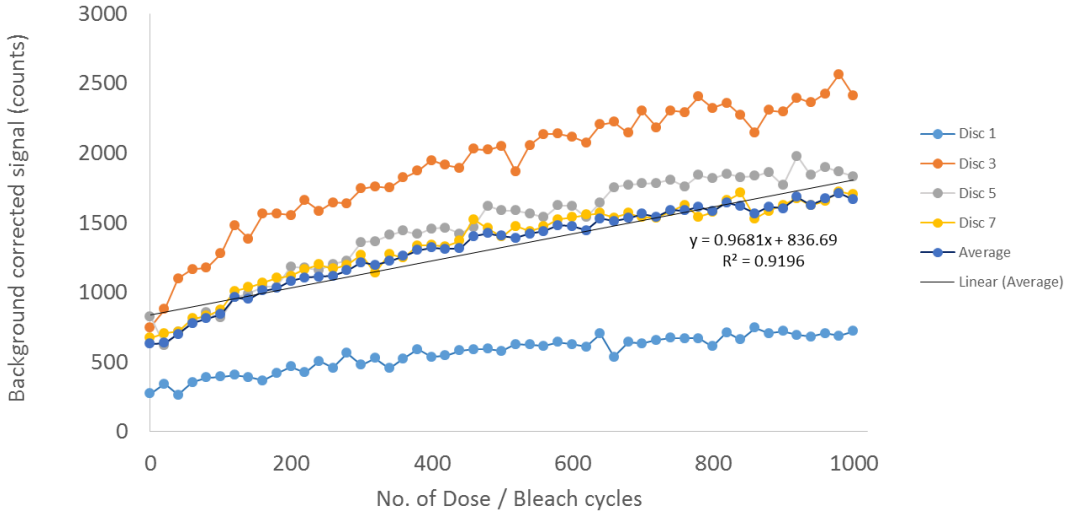

Fig. 2. The luminescence signal measured at 20 cycle intervals of 1000 bleaching and dosing cycles repeated on the entire disc holding 100 grains. Disc 3 is dominated by the highest sensitivity outlier shown in Fig 1 A. While the increase is generally low and may be dominated by only one or two grains, the average increase is well-fit by a linear function.