



Assessing the effects of mineral alteration on palaeointensity determinations

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We present preliminary results from an SEM based investigation of Cretaceous basalt sampled from the Shandong region of China. To be confident in palaeointensity determinations it is necessary to understand the processes that could affect the samples ability to record an accurate thermal remanent magnetisation, TRM. A suite of rock magnetic experiments and SEM based observations have been conducted to try and establish the cooling history of the samples and the consequential effect this has on palaeointensity estimations. Additionally, SEM analyses of samples that have undergone a microwave based palaeointensity investigation as well as the conventional Thellier, heating based investigation allows us to analyse any alteration that may have occurred as a result of the experimental phase. Thermochemical alteration during the heating phase of a Thellier based palaeointensity investigation often causes failure of the experiment resulting in non acceptable data. The microwave technique reduces the effect of this thermochemical alteration with the prospect of yielding higher success rates. Preliminary observations discussing the effect of microwave demagnetisation compared with thermal demagnetisation will be shown here.