

**Palaeomagnetic analysis on Late Bronze Age pottery from Santorini:  
New data from the Akrotiri excavation and estimation of the  
deposition temperatures of the Minoan pyroclastic products.**

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Palaeomagnetic analysis on Late Bronze Age pottery from Santorini was carried out in order to estimate the thermal effect of the Minoan eruption on the pre-Minoan habitation level. Carefully selected pottery fragments found on the surface of the pre-Minoan palaeosol and covered by the first pyroclastic products of the Minoan eruption have been collected and studied. Samples come from five sites situated at the central and south part of the island while for the first time palaeomagnetic results on ceramic fragments from the Akrotiri archaeological site are presented. Stepwise thermal demagnetizations reveal that most of the samples carry a two-component remanent magnetization. The deposition temperatures of the first pyroclastic products have been estimated by the maximum overlap of the re-heating temperature intervals given by the individual fragments at site level. A new statistical elaboration of the temperature data has also been proposed, calculating at 95% of probability the re-heating temperatures at each site. The obtained results show that the precursor tephra layer and the first pumice fall of the eruption were hot enough to re-heat the underlying ceramics at temperatures between 160 and 230 °C in the non inhabited sites while the temperatures recorded inside the Akrotiri village are slightly lower, varying from 130 to 200 °C. The decrease of the temperatures registered in the human

settlements suggests that there was some interaction between the buildings and the pumice fallout deposits while the buildings debris layer caused by the preceding and syn-eruption earthquakes has probably also contributed to the decrease of the temperatures experienced by the ceramics.