

**Preliminary Results of the Neolithic Palaeointensity in Southeast Asia from
Nong Ratchawat Archaeological Site**

Radchagrit Supakulopas [a]*, Kaixian Qi [b,c], Shuhui Cai [b,c] and Rasmi Shoocongdej [d]

[a] Division of Physical Science, Faculty of Science, Prince of Songkla University, Hat Yai, Songkhla, 90110, Thailand

[b] State Key Laboratory of Lithospheric Evolution, Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing, China

[c] College of Earth and Planetary Sciences, University of Chinese Academy of Sciences, Beijing, China

[d] Department of Archaeology, Faculty of Archaeology, Silpakorn University, Bangkok, 10200, Thailand

* Corresponding author. E-mail address: radchagrit.s@psu.ac.th

Abstract

Archaeological dating methods typically used in Thailand are radiocarbon dating and thermoluminescence dating. However, there are some drawbacks of the methods, e.g., the old wood effect may happen during radiocarbon dating or the thermoluminescence clock can be reset. In this study, we propose the archaeomagnetic dating that has fewer drawbacks. However, to develop this method in Thailand, we need sufficient palaeomagnetic data, including palaeodirection and palaeointensity over sufficiently time intervals. However, the palaeomagnetic data in Southeast Asia locality are sparse. Therefore, we plan to gather palaeomagnetic intensity data over 1,000-year intervals, spanning from 3,000-4,000 years ago, recorded in potteries from Nong Ratchawat. A total of 57 samples were measured the palaeointensity using the Thellier-Thellier modified by Coe method under an applied laboratory field of 30 μ T. The anisotropy of thermoremanent magnetisation (TRM) and cooling rate correction was also performed to prevent palaeointensity data biases. Later, we will use these data to construct a regional archaeomagnetic secular variation (ASV) curve for archaeological dating purposes.

Keywords: -