

## Archaeological Ceramics studied by NAA at the FRM-1

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In our studies of archaeological ceramics we employ a number of physical methods, mainly neutron activation analysis, Mössbauer spectroscopy, optical thin section microscopy and X-ray diffraction, in an effort to reach a holistic view of ancient ceramic production and its socio-economic context. The selection of the material for the studies depends on the detailed knowledge of the archaeological situation. The existence of unfired local material for model firing experiments in the laboratory is desirable.

As an important first step in the investigation of a complex of finds, neutron activation analysis followed by a cluster analysis of the data can be used to obtain information on the provenance of the ceramic material, which may not have been produced at the site of excavation. To illustrate both the possibilities and the difficulties of this method, the results obtained at the FRM-1 reactor for two groups of material will be described as examples. One group is from the excavations of the Celtic settlement of Manching (ca. 300 BC - 50 BC). The other group pertains to the Sicán civilisation in Northern Peru (ca. 950 - 1050 AD). The material was only recently recovered from the West Tomb at Huaca Loro (ca. 1000 AD) and from a middle Sicán multi-craft workshop at Huaca Sialupe (ca. 950 -1050 AD).

**Primary author:** Dr WAGNER, Ursula (Physics Department E15, TU München)

**Co-authors:** Dr WAGNER, Friedrich (Physik-Department E15, TU München); Prof. GEBHARD, Rupert (Ltd. Sammlungsdirektor Archäologische Staatssammlung München)

**Presenter:** Dr WAGNER, Ursula (Physics Department E15, TU München)

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