

# RAMAN MICROSCOPY: A POWERFUL TOOL FOR ARCHAEOOMETRY AND ITS APPLICATION TO THE ANALYSIS OF IBERIAN CULTURE ARCHAEOLOGICAL REMAINS.

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Archaeometry is a discipline consisting on application of analysis from experimental sciences (Chemistry, Physics, Geology, Biology...) to archaeological materials.

Among all the different techniques of physico-chemical analysis used in Archaeology, Raman Microscopy (or Micro Raman Spectroscopy) has become more and more relevant over the past few years. Its growing use relies on a number of advantages which make it ideal for analysis of a variety of archaeological materials: it is non-destructive, requires small amount of sample, and yields high spatial resolution, allowing the analysis of small heterogeneities in a complex matrix [1].

Above mentioned properties make Raman Microscopy a powerful tool for our research, which deals with the analysis of the chemical components found in archaeological remains dated back the Iberian Period (VIth-IIth B.C.). Specifically, we are interested in the mineral composition of building materials, painted pottery and the pigments used for their decoration.

A deep knowledge of the chemical composition of the remains is essential for subsequent restoration and musealization of the items found, in order to employ the same materials that the Iberian people used centuries ago [2].



Figure 1: Hematite red pigment

[1] G.D. Smith, R.J.H. Clark, **J. Archaeol. Sci.** 31 (2004) 1137-1160.

[2] D. Parras-Guijarro, M. Montejo-Gómez, N. Ramos-Martos, A. Sánchez. **Spectrochim. Acta A.** 64 (2006) 1133-1141.