

INVESTIGATIONS OF ANCIENT COINS USING LASER-INDUCED BREAKDOWN SPECTROSCOPY

Wojciech SKRZECZANOWSKI

ABSTRACT *LIBS applications in analysis of chemical composition of selected ancient coins are described in the paper. In the introduction a review of typical physical phenomena present in LIBS experiments is given, problems related to correct interpretation of LIBS emission spectra are shortly discussed. Next part of the paper is devoted to short description of experimental setup and its essential components. In the Chapter 3 works on determination of chemical composition of Greek and Roman coins are presented. Results of analysis of chemical composition of the coins using calibration LIBS approach with the aid of statistical multivariate factorial analysis are shown. For octodrachm a stratigraphy method was applied which revealed a complex structure of superficial encrustations covering the coin surface. Summary includes author's opinion on presented results and a short comment on problems related to quantitative LIBS measurements.*

Keywords: *Laser-Induced Breakdown Spectroscopy, line spectrum, ancient coins*