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Unlocking the Past: Insights into Mediterranean Archaeological Metals Through Spectroscopy, Chemometrics and Artificial Intelligence

Wednesday, 6 March 2024 13:45 (15 minutes)

The preservation and understanding of cultural heritage artifacts are of paramount importance for connecting with our historical and artistic past. The use of spectroscopic techniques, combined with chemometrics and artificial intelligence, offers a novel approach to analyzing the composition and structure of archaeological goods, shedding light on their conservation status, provenance, and historical context. The aim of this study was to apply advanced spectroscopic methods, alongside chemometric models and artificial intelligence algorithms, to investigate archaeological metal objects, aiming to uncover insights into their production, usage, and conservation needs.

The study analyzed a series of archaeological metal artifacts through a comprehensive survey involving spectroscopic examinations. These examinations were designed to identify the composition and manifacture, using chemometric techniques and artificial intelligence for data interpretation and analysis.

The approach of combining spectroscopic techniques with chemometric and artificial intelligence methodologies has proven effective in the study of archaeological metals from the Mediterranean basin such us the arrows from Mothia island. This multidisciplinary method infact aids in the conservation and restoration the arrows and on understanding of their provenience to Punic or Greek culture. The presentation will further elaborate on other case studies, demonstrating the practical application and outcomes of this research approach.

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