ASSESSMENT OF SOME Ag-BASED COINS FROM AYYUBID PERIOD, YEMEN, CORROSION AND METHODS OF TREATMENT

Abstract
Some Archaeological Coins have been discovered in Al-Banawa excavation, Dhamar, season ٢٠٠٢, and now they are situated in Dhamar museum, Yemen. These coins suffered from corrosion products mixed with particulars of the soil and others deterioration aspects. This work aims to evaluate the effectiveness of the corrosion mechanism on the coins, identify the morphology and mineralogy of corrosion products and identify the Metallic composition of these Coins and the best methods for treatment. To achieve these aims analytical and characterization study on areal samples from the coins were performed using metallographic microscope, scanning electron microscope, X-Ray Diffraction Analysis and X-Ray Florence. The examinations showed the degradations and deteriorations of the coins, processes that started in the burial time. X-ray fluorescence results showed that the coins consists of ternary alloy [Silver, Copper, Lead]. The difference in potential between the three metals in the Coins plays a serious role in the corrosion process. Finally, the results obtained helps in choosing the best methods of treatment and conservation.