

GLANCING INCIDENCE XRF FOR THE ANALYSIS OF EARLY CHINESE BRONZE MIRRORS

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Glancing incidence X-Ray excitation was used to measure the X-Ray fluorescence from elements in ancient Chinese bronze mirrors dated to one of two time periods. The mirrors were archived to be from either 200 BC-200 AD and from approximately the 800 AD period. The intensity of characteristic X-Ray lines was also measured under conventional angle excitation angles. An iterative procedure was used to match composition coefficients to one or more bronze standards for the different excitation angles. From these measurements elemental compositions, absorption effects, and composition gradients were measured. For these studies 5 Chinese bronze mirrors were obtained courtesy of the Godwin-Ternbach Museum located at Queens College.