

Table of contents

Foreword	ix
Part I <i>In-situ</i> Measurements	
<i>Chapter I-1</i>	
Characterization of Pigments Used in Ancient Egypt	3
<i>M. Uda</i>	
<i>Chapter I-2</i>	
Importance of <i>in-situ</i> EDXRF Measurements in the Preservation and Conservation of Material Culture	27
<i>A.G. Karydas, X. Brecolaki, Th. Pantazis, E. Aloupi,</i> <i>V. Argyropoulos, D. Kotzamani, R. Bernard, Ch. Zarkadas and</i> <i>Th.Paradellis</i>	
<i>Chapter I-3</i>	
Scientific Field Research in Egypt -Results from research undertaken by the Institute of Egyptology, Waseda University-	55
<i>Sakuji Yoshimura</i>	
Part II Use of Ion Beam	
<i>Chapter II-1</i>	
Ion Beam Techniques for the Non-destructive Analysis of Archaeological Materials	67
<i>Guy Demortier</i>	
<i>Chapter II-2</i>	
The Origin of Ancient Gemstones Unveiled by PIXE, PIGE and μ -Raman Spectrometry	101
<i>T. Calligaro</i>	
<i>Chapter II-3</i>	
Investigations of Medieval Glass by a Combined PIXE/PIGE Method	113
Glassmaking à façon de Venise	
<i>Ž. Šmit and M. Kos</i>	

<i>Chapter II-4</i>	
PIXE Analysis of pre-Hispanic Items from Ancient America	123
<i>J.L. Ruvalcada Sil</i>	
<i>Chapter II-5</i>	
PIXE Study on Chinese Underglaze-Red Porcelain Made in Yuan Dynasty	151
<i>H.S.Cheng, Z.Q.Zhang, E.K.Lin, Y.P.Huang</i>	
<i>Chapter II-6</i>	
Glassmaking in the Venetian Manner	159
<i>Mateja Kos and Žiga Šmit</i>	
<i>Chapter II-7</i>	
Study on Pigments for Ceramics and Glass Using X-ray Methods	163
<i>B. Constantinescu, Roxana Bugoi, GH. Niculescu, D. Popovici, GH. Manucu-Adamesteanu</i>	
<i>Chapter II-8</i>	
Compositional Differences of Blue and White Porcelain Analyzed by External Beam PIXE	173
<i>Y. Sha, P.Q. Zhang, G.G. Wang, X.J. Zhang, X. Wang, J. Liu</i>	
Part III Use of Synchrotron Radiation	
<i>Chapter III-1</i>	
Synchrotron radiation X-ray fluorescence analysis of archaeological ceramics and glass	183
<i>Izumi Nakai</i>	
<i>Chapter III-2</i>	
Synchrotron Radiation in Archaeological and Cultural Heritage Science	199
<i>E. Pantos</i>	
<i>Chapter III-3</i>	
Study of the Elemental Distribution in Ancient Chinese Porcelain	

Using Synchrotron Radiation X-ray Fluorescence	209
<i>Y. Y. Huang, P. L. Leung, W. He</i>	

Chapter III-4

Study on the Compositional Differences among Different Kilns' Tang Sancai by SRXRF	217
<i>Y. Lei, S. L. Feng, J. Jiang, Z. X. Zhuo, S. L. Zhang, Y. M. Liao</i>	

Chapter III-5

Study of Chemical Composition in Ancient Celadon of Yue Kiln	223
<i>Dongyu Fan, Songlin Feng, Qing Xu</i>	

Part IV Radiography

Chapter IV-1

The Use of Medical Computed Tomography (CT) Imaging in the Study of Ceramic and Clay Archaeological Artifacts from the Ancient Near East	231
<i>N. Applbaum and Y.H. Applbaum</i>	

Chapter IV-2

The Radiographic Examinations of the "Guardian Statues" from the Tomb of Tutankhamen	247
<i>Jiro Kondo</i>	

Chapter IV-3

Analytical Study of Paintings by X-ray Radiography and Spectoroscopy	253
<i>Kamba Nobuyuki</i>	

Chapter IV-4

Radiographic Findings in Ancient Egyptian Mummies	259
<i>Kazuaki Hirata</i>	

Part V Interdisciplinary Field between Art and Science

Chapter V-1

X-ray Application on Post-Amarna Objects from Dahshur	265
<i>S.Hasegawa, M.Uda, S.Yoshimura, J.Kondo, T.Nakagawa, S.Nishimoto</i>	

<i>Chapter V-2</i>	
Decorative Program at Malqata Palace, Egypt	271
<i>Shin-Ichi Nishimoto</i>	
<i>Chapter V-3</i>	
X-ray Archaeology in China	275
<i>Changsui Wang</i>	
<i>Chapter V-4</i>	
The Relationship between Arts and Sciences in the Field of Archaeology: From Cooperation to a Truly Equal Partnership	291
<i>Sakuji Yoshimura</i>	
Color Plates	295
Index	305