

Contents

Part I	Introduction	
Experimental Probes of Electron Correlation Effects and the Influence on the Electronic Structure		
By G.A. Sawatzky (With 22 Figures)		2
Part II	Theory of the Auger Process and Electronic Structure Determination	
Theory of the Auger Spectra of Ca-Si Compounds		
By O. Bisi (With 8 Figures)		30
Surface Effects and Core-Hole Effects in Auger Spectra of Metals and Semiconductors		
By C.-O. Almbladh and A.L. Morales (With 3 Figures)		40
Auger Transition Rate Calculations for Systems with Open Subshells: Insight into Core Hole Screening in Simple Metals		
By A.D. Laine, G. Cubiotti, and P. Weightman		46
Comments on the Relationship Between Auger Lineshapes and Local Electronic Structure		
By G. Cubiotti (With 1 Figure)		51
The Local Densities of States of 4d Transition Metals		
By P.J. Durham, W.M. Temmerman, and A.M. Begley (With 3 Figures)		57
A Multiple Scattering Approach to the Interpretation of Interlayer and Intralayer Interactions in TiSe ₂ Clusters		
By P. Pavone, R. Girlanda, G. Martino, and E.S. Giuliano (With 4 Figures)		63
On the Theory of Auger Induced Desorption		
By M. Cini		71

Part III	Auger Spectra from Solid and Gaseous Samples	
<hr/>		
The Local Density of States in Simple Metals and Their Alloys as Revealed by Auger Spectroscopy By P. Weightman (With 3 Figures)		84
Spin Polarized Auger Spectroscopy from Magnetically Ordered Solids By M. Landolt (With 9 Figures)		97
Auger Study of the Electronic Correlations in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ By A. Balzarotti, M. De Crescenzi, N. Motta, F. Patella, and A. Sgarlata (With 4 Figures)		108
Valence Electron States in Gd-Silicides via $\text{Si-L}_{2,3}\text{VV}$ Auger Lineshape Analysis By M. Sancrotti, E. Vescovo, L. Calliari, and F. Marchetti (With 2 Figures)		116
Correlation Effects in Photoemission and Auger Spectra of Palladium By M. Cini and C. Verdozzi (With 2 Figures)		122
Recent Successes in Understanding the Electronic Structure of CuPd Alloys By S.D. Waddington, H. Wright, J. Evans, P. Weightman, W. Folkerts, D. van der Marel, C.F. J. Flipse, and G.A. Sawatzky (With 3 Figures)		127
Resonant Auger Emission at the La 3d-Excitation Threshold By H. Hinkers and H. Merz (With 4 Figures)		133
On the Theory of the Auger CVV Lineshape of Graphite By M. Cini and A. D'Andrea (With 3 Figures)		139
Surface Auger and Double Hole Shifts in Ni(100) By N. Mårtensson, A. Nilsson, A. Stenborg, and D. Parashkevov (With 6 Figures)		145
Auger Spectra Induced by Ar^+ Bombardment on Silicon and Silicides By S. Valeri and R. Tonini (With 5 Figures)		152
Auger and Secondary Emission Electronic Structural Characteristics in Metals and Insulators By H.G. Maguire (With 5 Figures)		159
XPS and Auger Spectra of Some Differently Substituted Indoles By R. Girlanda, G. Martino, A.M. Mezzasalma, G. Mondio, G. Saitta, and R. Giorgi (With 8 Figures)		166
Near Threshold Effects in Ar and CO Auger Spectra By L. Avaldi, G. Stefani, A. Lahmam-Bennani, A. Duguet, I. Harrison, and G.C. King (With 4 Figures)		171

On the Silicon CVV Spectra of Tetramethylsilane and Other Molecules in the Gas Phase	
By M. Cini, F. Maracci, and R. Platania (With 2 Figures)	180

Part IV	Analytical Aspects of Auger Electron Emission
----------------	--

The Role of Electron Backscattering in AES	
By A. Jablonski (With 5 Figures)	186
Application of the Pattern Recognition Method in Auger Electron Spectroscopy	
By B. Lesiak and A. Jablonski (With 3 Figures)	198
Chemical Information from Auger Spectra	
By B. Carrière, J.P. Deville, and P. Humbert (With 6 Figures)	204
Polymer Formation on Nickel Surfaces at Elevated Temperature	
By B. Dötsch, L. Hammer, and K. Müller (With 2 Figures)	212
Electron Spectroscopic Studies of Acetylene Adsorption on Polycrystalline Iron Films	
By M. Pirner, D. Borgmann, and G. Wedler (With 5 Figures)	218
Photoelectron and Auger Electron Emission from Physisorbed Xenon	
By K. Wandelt (With 7 Figures)	224
An Auger Electron Spectroscopy Study of the Influence of Sputter Ambient on the Electrical Characteristics of PtSi/Si Contacts	
By P. Lanza, O. Viscuso, F. La Via, C. Magro, and G. Ferla (With 8 Figures)	237
Temperature and Core Hole Dependence of EXFAS (Extended Fine Auger Structure) of Ag(111) and Cu	
By M. De Crescenzi, T. Tylsizczak, and A.P. Hitchcock (With 6 Figures)	243
A Technique for Performing Angle-Resolved Auger Electron Spectroscopy (ARAES) and Angle-Resolved Electron Energy Loss Spectroscopy (ARELS)	
By G.B. Hoflund (With 4 Figures)	251

Part V	Complementary Techniques
---------------	---------------------------------

BIS Investigation of the Co/Si(111) Interface Formation	
By J.Y. Veuillen, M. De Crescenzi, T.T.A. Nguyen, R. Cinti, and J. Derrien (With 7 Figures)	258

Photoemission and Scanning Tunneling Microscopy By H. Neddermeyer and St. Tosch (With 8 Figures)	264
Index of Contributors	277