

# Useful Books on Surface Analysis



## [TABLE OF CONTENTS & LINKS](#)



<a href="#"><u>JUMP TO:</u></a>	<i>Equipment used to Build Surface Analysis Instruments</i>
<a href="#"><u>JUMP TO:</u></a>	<i>Handbooks of Spectra, and Tables of BEs or KEs</i>
<a href="#"><u>JUMP TO:</u></a>	<i>Introduction to Surface Science</i>
<a href="#"><u>JUMP TO:</u></a>	<i>Real World Applications of Surface Science or Surface Analysis</i>
<a href="#"><u>JUMP TO:</u></a>	<i>Special Topics</i>
<a href="#"><u>JUMP TO:</u></a>	<i>Statistical Analysis of Data</i>
<a href="#"><u>JUMP TO:</u></a>	<i>Surface Physics</i>
<a href="#"><u>JUMP TO:</u></a>	<i>Surface Science or Surface Analysis of Various Materials</i>
<a href="#"><u>JUMP TO:</u></a>	<i>Synchrotron As Source</i>
<a href="#"><u>JUMP TO:</u></a>	<i>Teaching</i>
<a href="#"><u>JUMP TO:</u></a>	<i>Training Courses</i>
<a href="#"><u>JUMP TO:</u></a>	<i>AES</i>
<a href="#"><u>JUMP TO:</u></a>	<i>UPS / PES</i>
<a href="#"><u>JUMP TO:</u></a>	<i>XPS / ESCA</i>

NOTE: This is not a complete list. Please send us the title etc. of other books that are useful for Surface Science & Analysts. Please also send a brief comment about why the book is useful. We will add new categories as needed. Thank you from all of us.

### *Equipment to Build Surface Analysis Instruments*

**Experimental Innovations in Surface Science -  
A Guide to Practical Laboratory Methods and Instruments**  
J. T. Yates, Jr.. Springer Verlag, 1998

**Building Scientific Apparatus - A Practical Guide to Design and Construction**  
J. H. Moore, C. C. Davis, and M. A. Coplan, Addison-Wesley Publishing, 1983

**Optical Systems for Soft X-rays**  
A. G. Michette, Plenum Press, 1986



### *Handbooks of Spectra and Tables of BEs or KEs*

**Practical Handbook of Spectroscopy (XPS BE Tables from K. Siegbahn)**  
J. W. Robinson, CRC, 1991

**Handbook of X-ray Photoelectron Spectroscopy 1st ed.**  
C. D. Wagner, W. M. Riggs, L. E. Davis, and J. F. Moulder (G. E. Muilenberg, editor), Perkin-Elmer Corporation (Physical Electronics), 1979 (1st edition)

**Handbook of X-ray Photoelectron Spectroscopy 2nd ed.**

J. F. Moulder, W. F. Stickle, P. E. Sobol, and K. Bomben (J. Chastain, editor), Perkin-Elmer Corporation (Physical Electronics), 1992 (2nd edition)

**Handbook of X-ray Photoelectron Spectroscopy**

N. Ikeo, Y. Iijima, N. Nimura, M. Sigematsu, T. Tazawa, S. Matsumoto, K. Kojima, and Y. Nagasawa, JEOL, 1991

**High Resolution XPS of Organic Polymers - The Scienta ESCA300 Database**

G. Beamson and D. Briggs, Wiley Interscience, 1992

**VG Scientific XPS Handbook**

E. Adem, VG Scientific, 1991 (1st edition)

**On-Screen PDF Handbook of Monochromatic XPS Spectra - Vol. 1 - The Elements and Native Oxides**

B. V. Crist, XPS International, Inc., 1999

**On-Screen PDF Handbook of Monochromatic XPS Spectra - Vol. 2 - Commercially Pure Binary Oxides**

B. V. Crist, XPS International, Inc., 2005

**Handbook of Auger Electron Spectroscopy**

T. Sekine, Y. Nagasawa, M. Kudoh, Y. Sakai, A. S. Parkes, J. D. Geller, A. Mogami, and K. Hirata, JEOL, 1982

**Handbook of Auger Electron Spectroscopy, 3rd edition**

K.D. Childs, B.A. Carlson, L.A. LaVanier, J.F. Moulder, D.F. Paul, W.F. Stickle, and D.G. Watson, Physical Electronics, 1994

**VG Scientific Auger Handbook**

VG Scientific, 1989 (1st edition)

**VG Scientific Auger Handbook**

S. Trigwell, VG Scientific, 1993 (2nd edition)

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*Introduction to Surface Science*

**Encyclopedia of Materials Characterization**

C. R. Brundle, C. A. Evans, and S. Wilson, Butterworth-Heinemann, 1992

**Surface Science - An Introduction**

J. B. Hudson, Butterworth-Heinemann, 1992

**Characterization of Solid Surfaces**

P. F. Kane and G. B. Larrabee, Plenum Press, 1978

**Surface Analytical Techniques (Monographs on the Physics and Chemistry of Materials)**

J. C. Riviere, Oxford Science Publications, 1990

**Methods of Surface Analysis**

J. M. Walls (editor), Cambridge University Press, 1989

**Surfaces and Interfaces of Solids (Springer Series in Surface Sciences - Vol. 15)**

H. Lueth, Springer Verlag, 1993

**Journal of Electron Spectroscopy and Related Phenomena - First International Conference on Electron Spectroscopy in Namur (April 1974)**

R. Caudano and J. Verbist (editors), Elsevier Scientific Publishing, 1974

**Journal of Electron Spectroscopy and Related Phenomena - Fourth International Conference on Electron Spectroscopy in Hawaii (July 1989)**

C. R. Brundle, G. E. McGuire, and J. J. Pireaux (editors), Elsevier, 1990



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### *Real World Applications of Surface Science*

**Applied Electron Spectroscopy for Chemical Analysis (Chemical Analysis Vol. 63)**

H. Windawi and F. F-L. Ho (Editors), Wiley Interscience, 1982

**Laser Damage in Optical Materials**

R. Wood, Adam Hilger Ltd., 1986

**Surface Studies with Lasers (Springer Series in Chemical Physics - Vol.33)**

F. R. Aussenegg, A. Leitner, and M. E. Lippitsch (editors), Springer Verlag, 1983

**Industrial Adhesion Problems**

S. M. Brewis and D. Briggs (editors), Wiley Interscience, 1985

**Applied Surface Analysis (ASTM STP 699)**

T. L. Barr and L. E. Davis (editors), ASTM, 1980

**Industrial Applications of Surface Analysis (ACS Symposium Series Vol 199)**

L. A. Casper and C. J. Powell (editors), ACS, 1982

**Introduction to Photoelectron Spectroscopy (Chemical Analysis Vol. 67)**

P. K. Ghosh, Wiley Interscience, 1983

**Journal of Electron Spectroscopy and Related Phenomena - First International Conference on Electron Spectroscopy in Namur (April 1974)**

R. Caudano and J. Verbist (editors), Elsevier Scientific Publishing, 1974

**Journal of Electron Spectroscopy and Related Phenomena - Fourth International Conference on Electron Spectroscopy in Hawaii (July 1989)**

C. R. Brundle, G. E. McGuire, and J. J. Pireaux (editors), Elsevier, 1990



### *Special Topics*

**Thin Film Processes**

J. L. Vossen and W. Kern, Academic Press, 1978

**The Physics and Chemistry of Color - The Fifteen Causes of Color**

K. Nassau, Wiley Interscience, 1983

**X-rays in Atomic and Nuclear Physics**

N. A. Dyson, Cambridge University Press, 1990 (2nd edition)

**X-ray Spectroscopy (Springer Series in Optical Sciences)**

B. K. Agarwal, Springer Verlag, 1991 (2nd ed.)

**Materials Handbook**

G. S. Brady and H. R. Clauser, McGraw-Hill Book Co., 1979 (11th edition)

**The Elements**

J. Emsley, Oxford University Press, 1991 (2nd edition)

**Polarized Electrons (Springer Series on Atoms and Plasmas)**

J. Kessler, Springer Verlag, 1985 (2nd edition)

**Thin Film and Depth Profile Analysis (Topics in Current Physics Vol. 37)**

H. Oechsner (editor), Springer Verlag, 1984

**Physical Analysis for Tribology**

T. F. J. Quinn, Cambridge University Press, 1991

**Surface Studies with Lasers (Springer Series in Chemical Physics - Vol.33)**

F. R. Aussenegg, A. Leitner, and M. E. Lippitsch (editors), Springer Verlag, 1983

**Systematics in the Electronic Structure of Poly-Valent Liquid Metals Determined by Electron Spectroscopy (Ph.D. Dissertation)**

G. Indlekofer, University of Basel, Switzerland, 1987

**Surface Reactions (Springer Series in Surface Sciences Vol. 34)**

R. J. Madix (Editor), Springer Verlag, 1994

**Adsorption on Ordered Surfaces of Ionic Solids and Thin Films**

(Springer Series in Surface Sciences Vol 33)

H-J. Freund and E. Umbach (editors), Springer Verlag, 1993

**Photo-electron Spectra Induced by X-rays of Above 600 Non-Metallic Compounds Containing 77 Elements**

C. K. Jorgensen and H. Berthou, Munksgaard Publishers, Denmark, 1972

**Journal of Electron Spectroscopy and Related Phenomena - First International Conference on Electron Spectroscopy in Namur (April 1974)**

R. Caudano and J. Verbist (editors), Elsevier Scientific Publishing, 1974

**Journal of Electron Spectroscopy and Related Phenomena - Fourth International Conference on Electron Spectroscopy in Hawaii (July 1989)**

C. R. Brundle, G. E. McGuire, and J. J. Pireaux (editors), Elsevier, 1990



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### *Statistical Analysis of Data*

**Data Fitting in the Chemical Sciences**

P. Gans, Wiley Interscience, 1992

**Data Analysis for the Chemical Sciences - A Guide to Statistical Techniques**

R. C. Graham, VCH Publishers, 1993



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### *Surface Physics*

**Introduction to Solid State Physics**

C. Kittel, Wiley & Sons, 1956 (2nd edition)

**Physics at Surfaces**

A. Zangwill, Cambridge University Press, 1988

**Intermolecular & Surface Forces**

J. Israelachvili, Academic Press, 1992 (2nd ed.)

**Electronic Properties of Surfaces**

M. Prutton (editor), Adam Hilger Ltd., 1984

**Physical Chemistry of Surfaces**

A. W. Adamson, Wiley Intersciences, 1990 (5th edition)

**Introduction to Surface Physics**

M. Prutton, Oxford Science Publications, 1994

**Solids and Surfaces - A Chemist's View of Bonding in Extended Structures**

R. Hoffmann, VCH Publishers, 1988

**Breakdown of the One-Electron Pictures in Photoelectron Spectra (Structure and Bonding - Vol 45)**

G. Wendin, Springer Verlag, 1981

**Basic Theory of Surface States (Monographs on the Physics and Chemistry of Materials - Vol. 46)**

S. G. Davison and M. Steslicka, Oxford Science Publications, 1992

**The Chemical Physics of Surfaces**

S. Roy Morrison, Plenum Press, 1990 (2nd edition)



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***Surface Science or Analysis of Various Materials*****Encyclopedia of Materials Characterization**

C. R. Brundle, C. A. Evans, and S. Wilson, Butterworth-Heinemann, 1992

**The Microelectronics Processing - Inorganic Materials Characterization**

ACS Symposium Series - Vol. 295. L. A. Caspar (editor), American Chemical Society, 1986

**The Surface Science of Metal Oxides**

V. E. Henrich and P. A. Cox, Cambridge University Press, 1994

**Physics and Chemistry at Oxide Surfaces**

C. Noguera, Cambridge University Press, 1996

**Surface and Near-Surface Chemistry of Oxide Materials**

(Materials Science Monographs Vol. 47)

J. Nowotny and L-C. DuFour (editors), Elsevier, 1988

**Electronic Conduction in Oxides (Springer Series in Solid-State Sciences Vol. 94)**

N. Tsuda, K. Nasu, A. Yanase and K. Siratori, Springer Verlag, 1991

**Semiconductor Surfaces and Interfaces (Springer Series in Surface Sciences Vol. 26)**

W. Moench, Springer Verlag, 1995 (2nd ed)

**The Fundamentals of Corrosion**

J. C. Scully, Pergamon Press, 1990 (3rd ed.)

**Laser Damage in Optical Materials**

R. Wood, Adam Hilger Ltd., 1986

**Spectroscopy in Catalysis**

J. W. Niemantsverdriet, VCH Publishers, 1995

**Introduction to Surface Chemistry and Catalysis**

G. A. Somorjai, Wiley Interscience, 1994

**Surface Science of Catalysis (In-situ Probes and Reaction Kinetics)**

D. J. Dwyer and D. M. Hoffman (editors), ACS Symposium Series Vol 482, ACS, 1992

**Materials Handbook**

G. S. Brady and H. R. Clauser, McGraw-Hill Book Co., 1979 (11th edition)

**Industrial Adhesion Problems**

S. M. Brewis and D. Briggs (editors), Wiley Interscience, 1985

**Polymer Surfaces**

D. T. Clark and W. J. Feast (editors), Wiley & Sons, 1978

**Polymer Degradation - Principles and Practical Applications**

W. Schnabel, Hanser International (Macmillan Publishing Co.), 1981

**Photon, Electron, and Ion Probes of Polymer Structure and Properties (ASC Series 162)**

D. W. Dwight, T. J. Fabish, and H. Ronald Thomas, American Chemical Society, 1981

**Physical Analysis for Tribology**

T. F. J. Quinn, Cambridge University Press, 1991



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**Synchrotron As Excitation Source****Introduction to Synchrotron Radiation**

G. Margaritondo, Oxford University Press, 1988

**Photoelectron Spectroscopy (Springer Series in Solid-State Sciences Vol. 82)**

S. Huefner, Springer Verlag, 1995

**Atomic Collisions - Electron and Photon Projectiles**

E. W. McDaniel, Wiley Interscience, 1989

**Electron Spectrometry of Atoms using Synchrotron Radiation**

V. Schmidt, Cambridge University Press, 1997



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**Teaching****Introduction to Photoelectron Spectroscopy (Chemical Analysis Vol. 67)**

P. K. Ghosh, Wiley Interscience, 1983

**Auger Electron Spectroscopy - AVS Training Course Book**

J. T. Grant, University of Dayton, 1994

**X-ray Photoelectron Spectroscopy (XPS/ESCA) - AVS Training Course Book**

J. T. Grant, University of Dayton, 1994

**Course on ESCA and Auger Spectroscopy - Am. Chem. Soc. Training Course Book**

D. M. Hercules, American Chemical Society, ca. 1985



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**Training Courses****Auger Electron Spectroscopy - AVS Training Course Book**

J. T. Grant, University of Dayton, 1994

**X-ray Photoelectron Spectroscopy (XPS/ESCA) - AVS Training Course Book**

J. T. Grant, University of Dayton, 1994

**Course on ESCA and Auger Spectroscopy - Am. Chem. Soc. Training Course Book**

D. M. Hercules, American Chemical Society, ca. 1985



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**AES****Practical Surface Analysis - Auger and X-ray Photoelectron Spectroscopy**

D. Briggs and M. P. Seah (Editors), Wiley Interscience, 1990 (2nd ed.)

**Handbook of Auger Electron Spectroscopy**

Physical Electronics, 1994

**Handbook of Auger Electron Spectroscopy**

Perkin Elmer Corporation, Physical Electronics, 1977

**Handbook of Auger Electron Spectroscopy**

T. Sekine, Y. Nagasawa, M. Kudoh, Y. Sakai, A. S. Parkes, J. D. Geller, A. Mogami, and K. Hirata, JEOL, 1982 (1st edition)

**Handbook of Auger Electron Spectroscopy**

Y. Sakai, Y. Iijima et al, JEOL, 1999 ? (2nd edition)

**VG Scientific Auger Handbook**

VG Scientific, 1989 (1st edition)

**VG Scientific Auger Handbook**

S. Trigwell, VG Scientific, 1993 (2nd edition)

**UPS / PES****Photoelectron Spectroscopy**

J. H. D. Eland, Butterworths & Co. Publishers, 1984 (2nd ed.)

**Photoelectron Spectroscopy (Springer Series in Solid-State Sciences Vol. 82)**

S. Huefner, Springer Verlag, 1995

**Introduction to Photoelectron Spectroscopy (Chemical Analysis Vol. 67)**

P. K. Ghosh, Wiley Interscience, 1983

**Handbook of He (I) Photoelectron Spectra of Fundamental Organic Molecules**

K. Kimura, S. Katsumata, Y. Achiba, T. Yamazaki, and S. Iwata, Japan Scientific Press, 1981

**(Ultra-violet) Photoelectron Spectra of Unstable Molecules**

K. Kimura, Institute of Molecular Science (UVSOR, Okazaki, Japan), 1984

**XPS / ESCA****Practical Surface Analysis -Auger and X-ray Photoelectron Spectroscopy**

D. Briggs and M. P. Seah (Editors), Wiley Interscience, 1990 (2nd ed.)

**Photoelectron Spectroscopy (Springer Series in Solid-State Sciences Vol. 82)**

S. Huefner, Springer Verlag, 1995

**Introduction to Photoelectron Spectroscopy (Chemical Analysis Vol. 67)**

P. K. Ghosh, Wiley Interscience, 1983

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B. V. Crist, XPS International, Inc., 1999

**Handbook of Monochromatic XPS Spectra - Vol. 2 - Commercially Pure Binary Oxides**  
B. V. Crist, XPS International, Inc., 1999

**Handbook of Monochromatic XPS Spectra - Vol. 3 - Semiconductors**  
B. V. Crist, XPS International, Inc., 1999

**Handbook of Monochromatic XPS Spectra - Vol. 4 - Polymers and Polymer Damage**  
B. V. Crist, XPS International, Inc., 1999

**Handbook of Monochromatic XPS Spectra - Vol. 5 - Miscellaneous Materials**  
B. V. Crist, XPS International, Inc., 1999

**On-Screen PDF Handbook of Monochromatic XPS Spectra - Vol. 1 - The Elements and Native Oxides,**  
B. V. Crist, XPS International, Inc., 1999

**Modern ESCA - The Principles and Practice of X-ray Photoelectron Spectroscopy**  
T. L. Barr, CRC, 1994

**Systematics in the Electronic Structure of Poly-Valent Liquid Metals Determined by Electron Spectroscopy (Ph.D. Dissertation)**  
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**High Resolution XPS of Organic Polymers - The Scienta ESCA300 Database**  
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J. W. Robinson, CRC, 1991

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