

Acronyms Glossary

This glossary lists all the acronyms referred to in the encyclopedia together with their meanings. The major technique acronyms are listed alphabetically. Alternatives to these acronyms are listed immediately below each of these entries, if they exist. Related acronyms (variations or subsets of techniques; terminology used within the technique area) are grouped together below the major acronym and indented to the right. Most, but not all, of the techniques listed here are the subject of individual articles in this volume.

AAS	Atomic Absorption Spectroscopy
AA	Atomic Absorption
VPD-AAS	Vapor Phase Decomposition-Atomic Absorption Spectroscopy
GFAA	Graphite Furnace Atomic Absorption
FAA	Flame Atomic Absorption
AES	Auger Electron Spectroscopy
Auger	Auger Electron Spectroscopy
SAM	Scanning Auger Microscopy
SAM	Scanning Auger Microprobe
AED	Auger Electron Diffraction
ADAM	Angular Distribution Auger Microscopy
KE	Kinetic Energy
CMA	Cylindrical Mirror Analyzer
AIS	Atom Inelastic Scattering
BET	Brunauer, Emmett, and Teller equation
BSDF	Bidirectional Scattering Distribution Function
BRDF	Bidirectional Reflective Distribution Function
BTDF	Bidirectional Transmission Distribution Function
CL	Cathodluminescence
CLSM	Confocal Scanning Laser Microscope
EDS	Energy Dispersive (X-Ray) Spectroscopy
EDX	Energy Dispersive X-Ray Spectroscopy
EDAX	Company selling EDX equipment
EELS	Electron Energy Loss Spectroscopy
HREELS	High-Resolution Electron Energy-Loss Spectroscopy
REELS	Reflected Electron Energy-Loss Spectroscopy
REELM	Reflection Electron Energy-Loss Microscopy
LEELS	Low-Energy Electron-Loss Spectroscopy

PEELS	Parallel (Detection) Electron Energy-Loss Spectroscopy
EXELFS	Extended Energy-Loss Fine Structure
EELFS	Electron Energy-Loss Fine Structure
CEELS	Core Electron Energy-Loss Spectroscopy
VEELS	Valence Electron Energy-Loss Spectroscopy
EPMA	Electron Probe Microanalysis
Electron Probe	Electron Probe Microanalysis
ERS	Elastic Recoil Spectrometry
HFS	Hydrogen Forward Scattering
HRS	Hydrogen Recoil Spectrometry
FRS	Forward Recoil Spectrometry
ERDA	Elastic Recoil Detection Analysis
ERD	Elastic Recoil Detection
PRD	Particle Recoil Detection
EXAFS	Extended X-Ray Absorption Fine Structure
SEXAFS	Surface Extended X-Ray Absorption Fine Structure
NEXAFS	Near-Edge X-Ray Absorption Fine Structure
XANES	X-Ray Absorption Near-Edge Structure
XAFS	X-Ray Absorption Fine Structure
FMR	Ferromagnetic Resonance
FTIR	See IR
FT Raman	See Raman
HREELS	See EELS
HRTEM	See TEM
GDMS	Glow Discharge Mass Spectrometry
GDQMS	Glow Discharge Mass Spectrometry using a Quadruple Mass Analyser
Gloquad	Manufacturer name
ICP-MS	Inductively Coupled Plasma Mass Spectrometry
ICP	Inductively Coupled Plasma
LA-ICP-MS	Laser Ablation ICP-MS
ICP-Optical	Inductively Coupled Plasma Optical Emission
ICP	Inductively Coupled Plasma
IETS	Inelastic Electron Tunneling Spectroscopy
IR	Infrared (Spectroscopy)
FTIR	Fourier Transform Infra-Red (Spectroscopy)
GC-FTIR	Gas Chromatography FTIR
TGA-FTIR	Thermo Gravimetric Analysis FTIR
ATR	Attenuated Total Reflection

RA	Reflection Absorption (Spectroscopy)
IRAS	Infrared Reflection Absorption Spectroscopy
ISS	Ion Scattering Spectrometry
LEIS	Low-Energy Ion Scattering
RCE	Resonance Charge Exchange
LEED	Low-Energy Electron Diffraction
LIMS	Laser Ionization Mass Spectrometry
LAMMA	Laser Microprobe Mass Analysis
LAMMS	Laser Microprobe Mass Spectrometry
LIMA	Laser Ionization Mass Analysis
NRMPI	Nonresonant Multi-Photon Ionization
MEISS	Medium-Energy Ion Scattering Spectrometry
MEIS	Medium-Energy Ion Scattering
MOKE	Magneto-Optic Kerr Rotation
SMOKE	Surface Magneto-Optic Kerr Rotation
NAA	Neutron Activation Analysis
INAA	Instrumental Neutron Activation Analysis
NEXAFS	Near Edge X-Ray Absorption Fine Structure
XANES	X-Ray Absorption Near Edge Structure
NIS	Neutron Inelastic Scattering
NMR	Nuclear Magnetic Resonance
MAS	Magic-Angle Spinning
NRA	Nuclear Reaction Analysis
OES	Optical Emission Spectroscopy
PAS	Photoacoustic Spectroscopy
PIXE	Particle Induced X-Ray Emission
HIXE	Hydrogen/Helium Induced X-ray Emission
PL	Photoluminescence
PLE	Photoluminescence Excitation
PR	Photoreflectance
EBER	Electron Beam Electroreflectance
RDS	Reflection Difference Spectroscopy
Raman	Raman Spectroscopy
FT Raman	Fourier Transform Raman Spectroscopy
RS	Raman Scattering
RRS	Resonant Raman Scattering
CARS	Coherent Anti-Stokes Raman Scattering

SERS	Surface Enhanced Raman Spectroscopy
RBS	Rutherford Backscattering Spectrometry
HEIS	High-Energy Ion Scattering
RHEED	Reflected High Energy Electron Diffraction
SREM	Scanning Reflection Electron Microscopy
SALI	Surface Analysis by Laser Ionization
PISIMS	Post-Ionization Secondary Ion Mass Spectrometry
MPNRPI	Multi-Photon Nonresonant Post Ionization
MRRPI	Multiphoton Resonant Post Ionization
RPI	Resonant Post Ionization
MPI	Multi-Photon Ionization
SPI	Single-Photon Ionization
SIRIS	Sputter-Initiated Resonance Ionization Spectroscopy
SARIS	Surface Analysis by Resonant Ionization Spectroscopy
TOFMS	Time-of-Flight Mass Spectrometer
SAM	See AES
SEM	Scanning Electron Microscopy Scanning Electron Microprobe Secondary Electron Microscopy
SE	Secondary Electron
BSE	Backscattered Electron
SEMPA	Secondary Electron Microscopy with Polarization Analysis
SFM	Scanning Force Microscopy Scanning Force Microscope
AFM	Atomic Force Microscopy
SPM	Scanning Probe Microscopy
SIMS	Secondary Ion Mass Spectrometry
Dynamic SIMS	Dynamic Secondary Ion Mass Spectrometry
Static SIMS	Static Secondary Ion Mass Spectrometry
Q-SIMS	SIMS using a Quadrupole Mass Spectrometer
Magnetic SIMS	SIMS using a Magnetic Sector Mass Spectrometer
Sector SIMS	See Magnetic SIMS
TOF-SIMS	SIMS using Time-of-Flight Mass Spectrometer
PISIMS	Post Ionization SIMS
SNMS	Sputtered Neutrals Mass Spectrometry Secondary Neutrals Mass Spectrometry
SNMSd	Direct Bombardment Electron Gas SNMS
SSMS	Spark Source Mass Spectrometry
Spark Source	Spark Source Mass Spectrometry
STEM	See TEM
STM	Scanning Tunneling Microscopy

SPM	Scanning Tunneling Microscope Scanning Probe Microscopy
TEAS	Thermal Energy Atom Scattering
TEM	Transmission Electron Microscopy Transmission Electron Microscope
CTEM	Conventional Transmission Electron Microscopy
STEM	Scanning Transmission Electron Microscopy
HRTEM	High Resolution Transmission Electron Microscopy
SAD	Selected Area Diffraction
AEM	Analytical Electron Microscopy
CBED	Convergent Beam Electron Diffraction
LTEM	Lorentz Transmission Electron Microscopy
TLC	Thin Layer Chromatography
TSRLM	Tandem Scanning Reflected-Light Microscope
TSM	Tandem Scanning Reflected-Light Microscope
TXRF	See XRF
UPS	Ultraviolet Photoelectron Spectroscopy Ultraviolet Photoemission Spectroscopy
MPS	Molecular Photoelectron Spectroscopy
VASE	Variable Angle Spectroscopic Ellipsometry
WDS	Wavelength Dispersive (X-Ray) Spectroscopy
WDX	Wavelength Dispersive X-Ray Spectroscopy
XAS	X-Ray Absorption Spectroscopy
XPS	X-Ray Photoelectron Spectroscopy X-Ray Photoemission Spectroscopy
ESCA	Electron Spectroscopy for Chemical Analysis
XPD	X-Ray Photoelectron Diffraction
PHD	Photoelectron Diffraction
KE	Kinetic Energy
XRD	X-Ray Diffraction
GIXD	Grazing Incidence X-Ray Diffraction
GIXRD	Grazing Incidence X-Ray Diffraction
DCD	Double Crystal Diffractometer
XRF	X-Ray Fluorescence
XFS	X-Ray Fluorescence Spectroscopy
TXRF	Total Reflection X-Ray Fluorescence
TRXFR	Total Reflection X-Ray Fluorescence
VPD-TXRF	Vapor Phase Decomposition Total X-Ray Fluorescence