Alphabetical index of terms in ISO18115:Part 1 *Surface chemical analysis — Vocabulary -* Part 1: General terms and terms for the spectroscopies

For FDIS draft, 21 November 2008

A

abnormal glow discharge <GDS> 5.229
absolute elemental sensitivity factor 5.415
absorption coefficient, linear 5.1
absorption coefficient, mass 5.2
abundance sensitivity <GDMS> 5.3
adventitious carbon referencing 5.4
AES 4.1
AES, angle resolved 5.19
afterglow <GDS> 5.5
aligned incidence spectrum 5.435
altered layer 5.6
AMRSF <AES, XPS> 5.416
analyser blanking 5.7
analyser dispersion <energy or mass> 5.430
analyser dispersion <optical> 5.431
analyser, electron energy 5.187
analyser, mass 5.294
analyser transmission function 5.434
analysis area <sample> 5.8
analysis area <spectrometer> 5.9
analysis volume <sample> 5.10
analysis volume <spectrometer> 5.11
angle, beam convergence 5.67
angle, beam divergence 5.74
angle, critical 5.12
angle-dependent AES 5.19
angle-dependent XPS 5.21
angle, emission 5.16
angle, glancing 5.13
angle, incidence 5.17
angle lapping 5.14
angle, magic 5.15
angle of emission 5.16
angle of incidence 5.17
angle of scattering 5.18
angle-resolved AES 5.19
angle-resolved EPES 5.20
angle-resolved XPS 5.21
angle, scattering 5.18
angle, solid, of analyser 5.22
angle, solid, of detector 5.23
angle, take-off 5.24
angular distribution, secondary-ion 5.407
anion 5.25
anode <GDS, dc operation> 5.26
anode <GDS, rf operation> 5.27
anode dark space <GDS> 5.140
anode glow <GDS> 5.28
aperture, contrast 5.29
aperture, optical 5.319
aperture, selected area 5.411
area, analysis <sample> 5.8
area, analysis <spectrometer> 5.9
area, gated 5.227
area, peak 5.326
areic dose 5.175
areic dose rate 5.179
ARAES 5.19
AREPES 5.20
ARXPS 5.21
Aston dark space <GDS> 5.141
asymmetric charge exchange <GDS> 5.101
asymmetric charge transfer <GDS> 5.101
asymmetry parameter 5.30
atomic mass unit (deprecated) 5.31
atomic mixing 5.32
attenuation coefficient 5.33
attenuation coefficient, linear 5.1
attenuation coefficient, mass 5.2
attenuation length 5.34
attenuation length, effective 5.35
Auger de-excitation 5.36
Auger electron 5.37
Auger electron spectroscopy 4.1
Auger electron spectrum 5.38
Auger electron yield 5.39
Auger neutralization 5.40
Auger parameter 5.41
Auger parameter, initial state 5.42
Auger parameter, modified 5.43
Auger process 5.44
Auger process, interatomic 5.45
Auger transition 5.46
Auger transition rate 5.47
Auger vacancy satellite 5.48
autocorrelation factors, maximum 6.8
autoscaling 6.19
average beam current 5.69
average emission function decay length 5.157
average matrix relative sensitivity factor <AES,XPS> 5.416

B

background equivalent concentration <GDS> 5.49
background, inelastic 5.50
background, instrumental 5.51
background, metastable 5.52
background, relative standard deviation of the 5.53
background, Shirley 5.54
background, Sickafus 5.55
background signal 5.56
background subtraction, inelastic electron scattering 5.242
background, Tougaard 5.57
backscattered electron 5.58
backscattering coefficient <AES, EPMA> 5.63
backscattering coefficient <EIA,RBS> 5.59
backscattering energy 5.60
backscattering factor 5.61
backscattering spectrum 5.62
backscattering yield <AES, EPMA> 5.63
backscattering yield <EIA, RBS> 5.59
ball cratering 5.64
beam blanking 5.65
beam bunching 5.66
beam chopper 5.109
beam convergence angle 5.67
beam current 5.68
beam current, average 5.69
beam current density 5.70
beam current, integrated 5.71
beam current, pulse 5.72
beam diameter 5.73
beam divergence angle 5.74
beam energy 5.75
beam particle 5.76
beam, primary 5.77
beam profile 5.78
beam source energy (deprecated) 5.79
bias, dc <GDS> 5.145
bias, self <GDS> 5.145
binary elastic scattering 5.80
binary elastic scattering peak 5.81
binding energy 5.82
blocking geometry 5.83
bond cleavage 5.84
bond scission 5.84
boosted glow discharge <GDS> 5.230
Bragg's rule 5.85
bremsstrahlung 5.86
bulk plasmon 5.339

C

CAE mode 5.116
carbon, adventitious referencing 5.4
cascade mixing 5.87
cascade, collision 5.114
cathode <GDS, dc operation> 5.88
cathode <GDS, rf operation> 5.89
cathode dark space <GDS> 5.142
cathode drop <GDS> 5.90
cathode fall <GDS> 5.90
cathode layer <GDS> 5.91
cathode, secondary <GDS> 5.400
cation 5.92
cationized ion 5.93
CDP 5.115
centering 6.1
centring (deprecated) 6.1
certified reference material 5.371
channelling 5.94
characteristic electron energy losses 5.95
characteristic X-rays 5.96
charge compensation (deprecated) 5.98
charge exchange <GDS> 5.100
charge exchange, asymmetric <GDS> 5.101
charge exchange, symmetric <GDS> 5.102
charge modification 5.97
charge neutralization 5.98
charge referencing 5.99
charge stabilization (deprecated) 5.98
charge transfer <GDS> 5.100
charge transfer, asymmetric <GDS> 5.101
charge transfer, symmetric <GDS> 5.102
charging potential 5.103
charging, sample 5.392
chemical effects 5.104
chemical map 5.290
chemical shift 5.105
chemical specie 5.106
chemical state of an atom <AES, EELS, UPS, XPS> 5.107
chemical state plot <XPS> 5.108
chopper, beam 5.109
chromatic aberration 5.110
cluster ion 5.111
cluster SIMS 5.112
collective motion 5.113
collision cascade 5.114
component (deprecated) 6.5
compositional depth profile 5.115
concentration, background equivalent <GDS> 5.49
constant analyser energy mode 5.116
constant ΔE mode 5.116
constant ΔE/E mode 5.117
constant retardation ratio mode 5.117
contrast aperture 5.29
contamination, surface 5.459

cooperative uplifting 5.118
Coster-Kronig transition 5.119
counts 5.120
crater depth 5.121
crater edge effect 5.122
cratering, ball 5.64
critical angle 5.12
CRM 5.371
Crookes' dark space (deprecated) <GDS> 5.142
cross section 5.123
cross section, damage 5.124
cross section, disappearance 5.125
cross section, elastic scattering 5.126
cross section, elastic scattering, differential 5.127
cross section, enhanced elastic 5.128
cross section, inelastic scattering 5.129
cross section, ionization 5.130
cross section, nuclear reaction 5.131
cross section, photoionization 5.132
cross section, Rutherford 5.133
cross section, stopping 5.134
cross section, stopping, electronic 5.452
cross section, stopping factor 5.453
cross section, stopping nuclear 5.454
cross section, sub-shell photoionization 5.135
cross section, transport 5.136
cross sectioning 5.137
CRR mode 5.117
current, average beam 5.69
current, beam 5.68
current, integrated beam 5.71
current, pulse beam 5.72
curve resolving (deprecated) 5.329

D

Da 5.480
Dalton 5.480
damage cross section 5.124
damage limit 5.138
dark space <GDS> 5.139
dark space, anode <GDS> 5.140
dark space, Aston <GDS> 5.141
dark space, cathode <GDS> 5.142
dark space, Crookes' (deprecated) <GDS> 5.142
dark space, Faraday <GDS> 5.143
dark space, Hittorf (deprecated)<GDS> 5.142
data matrix 6.2
data matrix, reproduced 6.15
data preprocessing 6.3
data pre-treatment (deprecated) 6.3
daughter ion 5.144
dc bias <GDS> 5.145
dc offset <GDS> 5.145
dead time 5.146
dead time, extended 5.147
dead time, multidetector 5.148
dead time, non-extended 5.149
decay length 5.150
decay length, average emission function 5.151
decay length, deep emission function 5.152
decay length, emission function 5.153
decay length, leading edge 5.154
decay length, trailing edge 5.155
deep emission function decay length 5.152
de-excitation, Auger 5.36
degree of ionization 5.156
delayed onset 5.57
delta layer 5.158
dendrimer 5.159
deprotonated ion 5.160
depth, crater 5.121
depth distribution function, emission 5.161
depth distribution function, excitation 5.162
depth, information 5.246
depth, mean escape 5.203
depth profile 5.350
depth profile, compositional 5.115
depth profile, image 5.239
depth profile, sputter 5.440
depth profiling 5.163
depth resolution 5.164
depth resolution, instrumental <AES, SIMS, XPS> 5.165
depth resolution, instrumental <MEIS, RBS> 5.166
depth resolution parameter 5.167
DESI 4.2
desorption electrospray ionisation 4.2
detection efficiency, instrumental 5.250
detection limit 5.168
detector efficiency 5.169
detector, solid angle 5.23
DFA 6.4
diameter, beam 5.73
differential elastic scattering cross section 5.127
differential electron elastic reflection coefficient 5.170
differential spectrum 5.171
diffusion, radiation enhanced 5.353
digital gate 5.225
dilute limit 5.172
direct spectrum 5.173
discriminant analysis 6.4
discriminant function analysis 6.4
disappearance cross section 5.125
dispersion, analyser <energy or mass> 5.430
dispersion, analyser <optical> 5.431
dispersion, spectrometer <energy or mass> 5.430
dispersion, spectrometer <optical> 5.431
dose 5.174
dose, areic 5.175
dose density (deprecated) 5.175
dose, implanted areic 5.176
dose, nominal areic 5.177
dose, non-implanted areic 5.178
dose rate, areic 5.179
dose, received areic 5.180
dose, retained areic 5.181
dose, sputtered areic 5.182
dual beam profiling 5.183
dynamic emittance matching 5.184
dynamic SIMS 4.3

E

effective attenuation length 5.35
efficiency 5.186
efficiency, detector 5.169
efficiency, instrumental detection 5.250
eigenvalue, energy 5.194
elastic peak 5.186
elastic peak electron spectroscopy 4.4
elastic scattering 5.80
elastic scattering cross section 5.126
elastic scattering peak, binary 5.81
elastic scattering, binary 5.80
electrode sheath <GDS> 5.424
electron, backscattered 5.58
electron energy analyser 5.187
electron energy loss spectrum 5.197
electron energy losses, characteristic 5.95
electron flooding 5.188
electron impact excitation <GDS> 5.204
electron impact ionization <GDS> 5.274
electron inelastic mean free path 5.243
electron, primary 5.346
electron, primary <GDS> 5.347
electron retardation 5.189
electron, secondary 5.401
electron, secondary <GDS> 5.402
electron spectrometer 5.190
electron spectroscopy for chemical analysis (deprecated) 4.5
electronic gate 5.226
electronic relaxation 5.379
electronic stopping cross section 5.452
electrons, thermalized <GDS> 5.470
electrons, ultimate (deprecated) <GDS> 5.470
elemental map 5.291
emission angle 5.16
emission depth distribution function 5.161
emission function decay length 5.153
emission yield 5.191
energy acceptance window 5.192
energy, backscattering 5.60
energy, beam 5.75
energy, binding 5.82
energy distribution, secondary-ion 5.408
energy edge 5.193
energy eigenvalue 5.194
energy, Fermi 5.211
energy, impact 5.195
energy, kinetic 5.278
energy, Koopmans 5.280
energy loss 5.196
energy loss spectrum, electron 5.197
energy losses, characteristic electron 5.95
energy of incident beam (deprecated) 5.198
energy, orbital 5.320
energy, pass 5.325
energy, peak 5.327
energy per channel 5.199
energy, relaxation 5.380
energy, resolution 5.384
energy, scattered ion 5.394
energy, screening 5.381
energy, surface approximation 5.200
enhanced elastic cross section 5.128
enhancement factor 5.201
EPES 4.4
EPES, angle-resolved 5.20
equilibrium surface composition sputtering 5.442
erosion rate 5.202
ESCA (deprecated) 4.5
escape depth, mean 5.203
étendue, spectrometer 5.432
exchange splitting 5.313
excitation depth distribution function 5.162
excitation, electron impact <GDS> 5.204
excited state 5.205
experimental scattered ion intensity 5.396
extended dead time 5.147
extra-atomic relaxation energy 5.381
extraction bias 5.206
extraction field 5.207
extraction field, pulsed 5.356
extractor voltage 5.208

F

FAB (deprecated) 4.6
FABMS 4.6
FAB-SIMS 5.209
factor 6.5
factor analysis 6.6
factor, backscattering 5.61
fall potential <GDS> 5.90
Faraday cup 5.210
Faraday dark space <GDS> 5.143

fast atom bombardment mass spectrometry 4.6
Fast atom bombardment SIMS 5.209
FAT mode 5.116
Fermi energy 5.211
Fermi level 5.211
Fermi level referencing 5.212
FIB 5.213
field induced migration 5.214
final state 5.215
fixed analyser transmission mode 5.116
fixed retardation ratio mode 5.117
floating potential <GDS> 5.216
fluence <for a parallel beam of particles> 5.217
fluence <for particles moving in many directions> 5.218
fluorescence 5.219
fluorescence yield 5.220
flux 5.221
focussed ion beam system 5.213
fractional ion yield 5.269
fractional sputtering yield 5.446
fragment ion 5.222
fragment, polyatomic 5.340
fragmentation 5.223
free radical (deprecated) 5.360
frozen orbital approximation 5.224
FRR mode 5.117

G

gate, digital 5.225
gate, electronic 5.226
gate, optical (deprecated) 5.319
gated area 5.227
GDMS 4.8
GDOES 4.9
GDS 4.10
glancing angle 5.13
glancing exit 5.235
glancing incidence 5.236
glow discharge 5.228
glow discharge, abnormal <GDS> 5.229
glow discharge, boosted <GDS> 5.230
glow discharge mass spectrometry 4.8
glow discharge, normal <GDS> 5.231
glow discharge optical emission spectrometry 4.9
glow discharge, pulsed <GDS> 5.232
glow discharge source, jet-assisted <GDS> 5.233
glow discharge source, jet-enhanced <GDS> 5.233
glow discharge spectrometry 4.10
glow region (deprecated)<GDS> 5.314
gold decoration 5.234
grazing exit 5.235
grazing incidence 5.236
G-SIMS 4.7

H

Hittorf dark space (deprecated) <GDS> 5.142
hole 5.237
hole state 5.238
hole, spectator 5.429

I

IBA 4.11
Image (deprecated) **5.289**
image depth profile 5.239
impact energy 5.195
impact energy per ion 5.240
implantation, ion 5.263
implanted areic dose 5.176
incidence angle 5.17
incident particle energy 5.241
inelastic background 5.50
inelastic electron scattering background subtraction 5.242
inelastic mean free path, electron 5.243
inelastic scattering 5.244
inelastic scattering cross section 5.129
information area 5.245
information depth 5.246
information radius 5.247
initial state <AES, EPMA> 5.248
initial state <XPS> 5.249
initial state Auger parameter 5.42
instrumental background 5.51
instrumental depth resolution <AES, SIMS, XPS> 5.165
instrumental depth resolution <MEIS, RBS> 5.166
instrumental detection efficiency 5.250
integrated beam current 5.71
intensity, peak 5.251
intensity, signal 5.252
interatomic Auger process 5.45
interface 5.253
interface width, observed 5.254
interfacial region 5.255
interference signal 5.256
internal carbon referencing 5.257
internal scattering 5.258
intrinsic lineshape 5.285
intrinsic linewidth <AES, UPS, XPS> 5.286
intrinsic linewidth <instrument> 5.287
ion beam 5.259
ion beam analysis 4.11
ion beam induced mass transport 5.260
ion beam ratio <GDMS> 5.261
ion, cationized 5.93
ion, cluster 5.111
ion, daughter 5.144
ion, deprotonated 5.160
ion-electron recombination <GDS> 5.367
ion, fragment 5.222
ion image 5.262
ion implantation 5.263
ion lifetime 5.264
ion, metastable 5.300
ion, molecular 5.304
ion, molecular, deprotonated 5.305
ion, molecular, protonated 5.306
ion neutralization 5.265
ion, parent 5.322
ion, polyatomic 5.341
ion, primary 5.348
ion, probe 5.349
ion, protonated 5.353
ion scattering spectrometer 5.266
ion scattering spectrum 5.267
ion, secondary 5.406
ion species 5.268
ion yield, fractional 5.269
ion yield, partial 5.491
ion yield, negative 5.270
ion yield, positive 5.271
ion yield, total 5.492
ion yield, useful 5.272
ionization coefficient (deprecated) 5.156
ionization cross section 5.130
ionization efficiency 5.273
ionization, degree of 5.156
ionization, electron impact <GDS> 5.274
ionization, Penning <GDS> 5.275

J

jet-assisted glow discharge source <GDS> 5.233
jet-enhanced glow discharge source <GDS> 5.233
jump ratio 5.276

K

Keenan scaling (deprecated) 6.13
kinematic factor 5.277
kinetic energy 5.278
knock in 5.278
knock on 5.279
Koopmans energy 5.280

L

Langmuir-Blodgett film 5.281
lateral profile 5.351
lateral resolution 5.385
layer, altered 5.6
layer, delta 5.158
LB film 5.281
leading edge decay length 5.154
LEIS(S) 4.12
length, attenuation 5.34
length, decay 5.150
length, effective attenuation 5.35
lifetime, ion 5.264
limit, detection 5.168
limit, dilute 5.172
line scan 5.282
line width (deprecated) 5.331
linear absorption coefficient 5.1
linear attenuation coefficient 5.1
linear cascade 5.383
linear collision cascade 5.283
lineshape 5.284
lineshape, intrinsic 5.285
lineshape, natural 5.285
linewidth, intrinsic 5.286
linewidth, intrinsic <instrument> 5.287
linewidth, natural 5.286
liquid metal ion gun 5.288
LMIG 5.288
loadings 6.7
loss, energy 5.186
loss phenomena, characteristic electron 5.95
loss spectrum, electron energy 5.197
losses, characteristic electron energy 5.95
low energy ion scattering spectrometry 4.12

M

MAF 6.8
magic angle 5.15
MALDI 4.14
map 5.289
map, chemical 5.290
map, elemental 5.291
mass absorption coefficient 5.2
mass accuracy 5.292
mass accuracy, relative 5.293
mass analyser 5.294
mass spectrum 5.295
mass to charge ratio 5.296
mass transport, ion beam induced 5.260
matrix assisted laser desorption/ionization mass spectrometry 4.14
matrix, data 6.2
matrix effects 5.297
matrix factor 5.298
matrix, residuals 6.16

maximum autocorrelation factors 6.8
MCR 6.10
mean centering 6.1
mean centring (deprecated) 6.1
mean escape depth 5.203
mean free path, electron inelastic 5.243
mean free path, transport 5.299
medium energy ion scattering spectrometry 4.13
MEIS(S) 4.13
metastable ion 5.300
migration, field induced 5.214
mixing, atomic 5.32
mixing, cascade 5.87
mixing, zone of 5.494
modified Auger parameter 5.43
modulation 5.301
molecular fragment 5.302
molecular image 5.303
molecular ion 5.304
molecular ion, deprotonated 5.305
molecular ion, protonated 5.306
molecule, oligomer 5.318
monolayer 5.307
monolayer capacity <chemisorption> 5.308
monolayer capacity <physisorption> 5.309
motion, collective 5.113
multidetector dead time 5.148
multilayer 5.310
multilayer <chemisorption, physisorption> 5.311
multiplet splitting <AES> 5.312
multiplet splitting <XPS> 5.313
multivariate analysis 6.9
multivariate curve resolution 6.10
MVA 6.9

N

natural lineshape 5.285
natural linewidth 5.286
negative glow <GDS> 5.314
negative ion yield 5.270
neutralization, Auger 5.40
neutralization, charge 5.98
neutralization, ion 5.265
noise 5.315
noise, statistical 5.316
nominal areic dose 5.177
nominal mass 5.317
non-extended dead time 5.149
non-implanted areic dose 5.177
normal glow discharge <GDS> 5.231
normalization 6.11
nuclear reaction cross section 5.131
nuclear stopping cross section 5.454

O

observed interface width 5.254
oligomer molecule 5.318
optical aperture 5.319
optical gate (deprecated) 5.319
optimal scaling (deprecated) 6.13
orbital energy 5.320
overpotential 5.321

P

parent ion 5.322
partial intensity 5.323
partial intensity, reduced 5.324
partial ion yield 5.491
partial least squares 6.12
partial least squares regression 6.12
partial sputtering yield 5.447
particle energy, incident 5.241
particle, beam 5.76
pass energy 5.325
PCA 6.14
peak area 5.326
peak, elastic 5.186
peak energy 5.327
peak fitting 5.328
peak intensity 5.251
peak, quasi-elastic 5.186
peak synthesis 5.329
peak-to-background ratio 5.330
peak width 5.331
Penning ionization <GDS> 5.275
PERSF <AES, XPS> 5.417
photoelectric effect 5.332
photoelectron X-ray satellite peaks 5.333
photoelectron X-ray satellite subtraction 5.334
photoemission 5.335
photoionization cross section 5.132
photoionization cross section, sub-shell 5.135
pileup 5.336
plasma <GDS> 5.337
plasma potential <GDS> 5.338
plasmon 5.339
plasmon, bulk 5.339
plasmon, surface 5.462
plasmon, volume 5.339
PLS 6.12
PLSR (deprecated) 6.12
Poisson scaling 6.13
polyatomic fragment 5.340
polyatomic ion 5.341
positive column <GDS> 5.342
positive ion yield 5.271
post-acceleration detector voltage 5.343
post-acceleration voltage 5.343
potential, charging 5.103
potential, floating <GDS> 5.216
potential, plasma <GDS> 5.338
potential, sheath <GDS> 5.425
potential, space <GDS> (deprecated) 5.338
preburn <GDS, bulk materials> 5.344
preburning <GDS, bulk materials> 5.345
preferential sputtering 5.443
preprocessing, data 6.3
presputtering <GDS, bulk materials> 5.345
presputtering period <GDS, bulk materials> 5.344
primary beam 5.77
primary electron 5.346
primary electron <GDS> 5.347
primary ion 5.348
principal component (deprecated) 6.5
principal component spectrum (deprecated) 6.7
principal component analysis 6.14
probe ion 5.349
profile, beam 5.78
profile, depth 5.350
profile, lateral 5.351
profile, vertical 5.350
profiling, dual beam 5.183
projected range 5.352
projections (deprecated) 6.21
protonated ion 5.353
pulse beam current 5.72
pulse rate 5.354
pulse width 5.355
pulsed extraction field 5.356
pulsed glow discharge <GDS> 5.232
pure component (deprecated) 6.5
pure component concentration (deprecated) 6.21
pure component spectrum (deprecated) 6.7
pure element relative sensitivity factor <AES,XPS> 5.417

Q

quantitative analysis 5.357
quasi-elastic peak 5.186

R

radial sectioning 5.358
radiation enhanced diffusion 5.359
radiation induced diffusion 5.359
radiative recombination <GDS> 5.368
radical 5.360
radical ion 5.361
random incidence spectrum 5.436
random raster 5.362
range, projected 5.352
range, straggling 5.363
range, transverse 5.477
raster 5.364
raw data file 5.365
RBS 4.15
received areic dose 5.180
recoil effect 5.366
recoil implantation 5.279
recombination <GDS> 5.367
recombination, ion-electron <GDS> 5.367
recombination, radiative <GDS> 5.368
redeposition 5.369
reduced partial intensity 5.324
REELS 4.16
reference material 5.370
reference material, certified 5.371
reference method 5.372
referencing, adventitious carbon 5.4
referencing, charge 5.99
referencing, Fermi level 5.212
referencing, internal carbon 5.257
referencing, vacuum level 5.484
reflection electron energy loss spectroscopy 4.16
reflector voltage 5.373
reflectron 5.374
relative elemental sensitivity factor <AES, TXRF, XPS> 5.419
relative elemental sensitivity factor <dynamic SIMS> 5.420
relative instrument spectral response function 5.375
relative isotopic sensitivity factor 5.421
relative mass accuracy 5.293
relative resolution of a spectrometer 5.376
relative sensitivity factor <GDMS> 5.418
relative sputtering rate <GDS> 5.377
relaxation 5.378
relaxation, electronic 5.379
relaxation energy 5.380
relaxation energy, extra-atomic 5.381
relaxation, electronic 5.379
repeat unit, polymer 5.382
repetition rate 5.383
reproduced data matrix 6.15
residuals matrix 6.16
resolution, depth 5.164
resolution, depth, instrumental <AES, SIMS, XPS> 5.165
resolution, depth, instrumental <MEIS, RBS> 5.166
resolution, energy 5.384
resolution, lateral 5.385
resolution of a spectrometer 5.386
resolution, spectrometer 5.386
resolution, system 5.387
resolving power of a spectrometer 5.388
resonance reaction 5.389
response function, spectrometer 5.433

retained areic dose 5.181
retardation, electron 5.189
RISR 5.375
RM 5.370
RSF <GDMS> 5.418
Rutherford backscattering spectrometry 4.15
Rutherford cross section 5.133

S

SAM 5.413
sample area viewed by the analyser 5.390
sample bias 5.391
sample charging 5.392
sample voltage 5.393
samples 6.17
satellite, Auger vacancy 5.48
SAXS 4.18
scaling 6.18
scaling, auto 6.19
scaling, Poisson 6.13
scaling, variance 6.20
scattered ion energy 5.394
scattered ion energy ratio 5.395
scattered ion intensity, experimental 5.396
scattered ion intensity, theoretical 5.397
scattering angle 5.18
scattering, binary elastic 5.80
scattering, inelastic 5.244
scattering, internal 5.258
scores 6.21
screening 5.398
screening energy 5.381
screening function 5.399
scattering peak, binary elastic 5.81
SDP 5.440
secondary cathode <GDS> 5.400
secondary electron 5.401
secondary electron <GDS> 5.402
secondary electron emission coefficient <AES, EPMA> 5.403
secondary electron emission coefficient <GDS> 5.404
secondary electron yield <AES, EPMA> 5.403
secondary electron yield <GDS> 5.404
secondary electron yield, total 5.405
secondary ion 5.406
secondary-ion angular distribution 5.407
secondary-ion energy distribution 5.408
secondary-ion mass spectrometry 4.17
secondary-ion yield 5.409
sectioning, radial 5.358
segregation 5.410
segregation, surface 5.463
selected area aperture 5.411
self bias <GDS> 5.145
self-absorption <GDOES> 5.412
self-assembled monolayer 5.413
self modelling curve resolution (deprecated) 6.10
self modelling mixture analysis (deprecated) 6.10
self-reversal <GDOES> 5.414
sensitivity factor, absolute elemental 5.415
sensitivity factor, average matrix relative <AES,XPS> 5.416
sensitivity factor, pure element relative <AES,XPS> 5.417
sensitivity factor, relative <GDMS> 5.418
sensitivity factor, relative elemental <AES, XPS, TXRF> 5.419
sensitivity factor, relative elemental <dynamic SIMS> 5.420
sensitivity factor, relative isotopic <dynamic SIMS> 5.421
sensitivity, abundance <GDMS> 5.3
SEP 5.461
shakeoff 5.422
shakeup 5.423
sheath <GDS> 5.424
sheath potential <GDS> 5.425
Shirley background 5.54
shots per pixel 5.426
Sickafus background 5.55
signal intensity 5.252
signal-to-background ratio 5.330
signal-to-noise ratio 5.427
SIMS 4.17
SIMS, dynamic 4.3
SIMS, FAB- 5.209
SIMS, G- 4.7
SIMS, static 4.20
SMCR (deprecated) 6.10
SMMA (deprecated) 6.10
small angle X-ray scattering 4.18
smoothing 5.428
SNMS 4.19
solid angle of analyser 5.22
solid angle of detector 5.23
space potential (deprecated)<GDS> 5.338
spectator hole 5.429
spectrometer dispersion <energy or mass> 5.430
spectrometer dispersion <optical> 5.431
spectrometer étendue 5.432
spectrometer response function 5.433
spectrometer transmission function 5.434
spectrometer, electron 5.190
spectrometer, energy resolution 5.386
spectrometer, ion scattering 5.266
spectrometer, relative resolution 5.376
spectrometer, resolution 5.386
spectrometer, resolving power 5.388
spectrum, aligned incidence 5.435
spectrum, random incidence 5.436
spike 5.437
spike, thermal 5.469
spin coating 5.438
spin orbit splitting 5.439
sputter depth profile 5.440
sputtered areic dose 5.182
sputtered neutral mass spectrometry 4.19
sputtering 5.441
sputtering, equilibrium surface composition 5.442
sputtering, preferential 5.443
sputtering rate 5.444
sputtering rate, relative <GDS> 5.377
sputtering, steady-state <AES, GDS, SIMS> 5.449
sputtering, stoichiometric <AES, GDS, SIMS> 5.450
sputtering yield 5.445
sputtering yield, fractional 5.446
sputtering yield, partial 5.447
sputtering yield, partial ion 5.491
standard vacuum level 5.485
state, excited 5.205
state, final 5.215
state, initial <AES, EPMA> 5.248
state, initial <XPS> 5.249
static limit 5.448
static SIMS 4.20
statistical noise 5.316
steady-state sputtering <AES, GDS, SIMS> 5.449
stoichiometric sputtering <AES, GDS, SIMS> 5.450
stop event 5.451
stopping cross section 5.134
stopping cross section, electronic 5.452
stopping cross section factor 5.453
stopping cross section, nuclear 5.454
stopping force 5.455
stopping power 5.455
straggling, range 5.363
straggling, transverse 5.478
sub-shell photoionization cross section 5.135
sum rule <dielectric function> 5.456
super Coster-Kronig transition 5.457
surface 5.458
surface contamination 5.459
surface coverage 5.460
surface energy approximation 5.200
surface excitation parameter 5.461
surface plasmon 5.462
surface segregation 5.463
surfactant 5.464
symmetric charge exchange <GDS> 5.102
symmetric charge transfer <GDS> 5.102
synchrotron radiation 5.465
synthesis, peak 5.329
system resolution 5.387

T

take-off angle 5.24
target 5.466
target, thick 5.467
target, thin 5.463
theoretical scattered ion intensity 5.397
thermal spike 5.469
thermalized electrons <GDS> 5.470
thick target 5.467
thin film 5.471
thin target 5.468
time constant 5.472
time of flight 5.473
topographic contrast 5.474
total ion yield 5.492
total reflection 5.475
total reflection X-ray fluorescence spectroscopy 4.21
total secondary electron yield 5.405
Tougaard background 5.57
trailing edge decay length 5.155
transformation 6.22
transformation probability 5.476
transition, Auger 5.46
transition, Coster-Kronig 5.119
transition rate, Auger 5.47
transition, super Coster-Kronig 5.457
transmission function, spectrometer 5.434
transport cross section 5.136
transport mean free path 5.299
transverse range 5.477
transverse straggling 5.478
TXRF 4.21

U

u 5.480
ultimate electrons <GDS> (deprecated) 5.470
ultra-shallow depth profile 5.479
ultra-violet photoelectron spectroscopy 4.22
unified atomic mass unit 5.480
unimolecular dissociation 5.481
uplifting, cooperative 5.118
UPS 4.22
useful ion yield 5.272
useful spatial resolution 5.482

V

vacuum level 5.483
vacuum level referencing 5.484
vacuum level, standard 5.485
valence band spectrum 5.486
variables 6.23
variance scaling 6.20

vertical profile 5.350
volume, analysis <sample> 5.10
volume, analysis <spectrometer> 5.11
volume plasmon 5.339
volume yield 5.493

W

Wagner plot <XPS> 5.108
weighting 6.18
work function 5.487

X

XPS 4.23
XPS, angle resolved 5.21
X-ray ghost line 5.488
X-ray linewidth 5.489
X-ray monochromator 5.490
X-ray photoelectron spectroscopy 4.23
X-ray satellite peaks, photoelectron 5.333
X-ray satellite subtraction, photoelectron 5.334
X-rays, characteristic 5.96

Y

yield, Auger electron 5.39
yield, backscattering <AES, EPMA> 5.63
yield, backscattering <EIA, RBS> 5.59
yield, emission <GDOES> 5.191
yield, fluorescence 5.220
yield, fractional ion 5.269
yield, fractional, sputtering 5.446
yield, negative ion 5.270
yield, partial ion 5.491
yield, partial sputtering 5.447
yield, positive ion 5.271
yield, secondary electron <AES, EPMA> 5.403
yield, secondary electron <GDS, SIMS> 5.404
yield, secondary-ion 5.409
yield, sputtering 5.445
yield, total ion 5.492
yield, total secondary electron 5.405
yield, useful ion 5.272
yield, volume 5.493

Z

zone of mixing 5.494

Alphabetical index of terms in ISO18115:Part 2 *Surface chemical analysis — Vocabulary -* Part 2: Terms for the scanned probe microscopies

For FDIS draft, 21 November 2008

A

Abbe diffraction limit 6.1
active length 6.2
AFM 4.3
AM detection 6.3
amplitude modulation detection 6.3
angle, cone 6.31
angle, cone half- 6.70
angle, half tip (deprecated) 6.70
angle, included half- 6.70
angle, semi-vertical (deprecated) 6.70
ANSOM (deprecated) 4.37
anti-Stokes scattering 6.4
aperture 6.5
aperture, numerical 6.93
apertureless NSOM (deprecated) 4.37
apertureless Raman microscopy 4.2
apertureless SNOM (deprecated) 4.37
apex, probe 6.120
artefact 6.6
artifact 6.6
ASNOM (deprecated) 4.37
assembly, cantilever 6.20
assembly, probe 6.20
atomic corrugation 6.7
atomic force microscopy 4.3

B

back side, cantilever 6.21
ballistic electron 6.8
barrier height 6.9
barrier height, local 6.10
barrier height, tunnelling 6.11
barrier, tunnelling 6.12
barrier width, tunnelling 6.13
BCP 5.2
Bethe-Bouwkamp model 6.14
bias, tip 6.159
blind reconstruction 6.15
bow 6.16
Bückle's rule 6.17
Burnham-Colton-Pollock 5.2

C

CAFM (deprecated) 4.5
C-AFM (deprecated) 4.5
cantilever 6.18
cantilever apex 6.19
cantilever assembly 6.20
cantilever backside 6.21
cantilever, chip 6.26
cantilever reflex side (deprecated) 6.21
cantilever stiffness (deprecated) 6.92
capillary force 6.22
carbon nanotube probe 6.23
Carpick-Ogletree-Salmeron 5.3
CFM 4.4
characterized length 6.24
charge, surface patch 6.155
chemical force 6.25
chemical force microscopy 4.4
chip 6.26
chip holder 6.27
chip substrate 6.26
CITS 4.6
closed-loop scanner 6.28
coarse approach device 6.29
composite probe 6.30
conductive probe atomic force microscopy 4.5
cone angle 6.31
cone half-angle 6.70
constant current mode 6.32
constant force mode 6.33
constant height mode 6.34
contact mode 6.35
contact, Hertzian 6.66
contour length (polymers) 6.36
corrugation, atomic 6.7
COS 5.3
CPAFM 4.5
current imaging tunnelling spectroscopy 4.6

D

damping 6.37
Derjaguin-Muller-Toporov 5.4
detector side (of a cantilever) 6.38
DFM 4.7
diffraction limit, Abbe 6.1
diffraction limit, far-field 6.1
dilation 6.39
dip-pen lithography 6.40
dissipation 6.41
distortion, feedback-induced 6.48
distortion, flexing-induced 6.51
dither 6.42
DMT 5.4
Drift, thermal 6.157
dual AC mode 6.83
dynamic force microscopy 4.7
dynamic friction 6.61
dynamic mode AFM 4.7

E

EC-AFM 4.9
EC-STM 4.10
EFM 4.8
elastic tunnelling 6.43
electric force microscopy(deprecated) 4.8
electrochemical atomic force microscopy 4.9
electrochemical scanning tunnelling microscopy 4.10
electron, ballistic 6.8
electrostatic force 6.44
electrostatic force microscopy 4.8
energy, interfacial 6.72
energy, surface 6.50
erosion 6.45
etched tip 6.46
evanescent wave 6.47

F

far-field diffraction limit 6.1
feedback-induced distortion 6.48
FFM 4.12
Fischer pattern 6.49
Fischer projection pattern 6.49
flatness 6.50
flexing-induced distortion 6.51
fluorescence 6.52
fluorescence quenching 6.53
fluorescence resonant energy transfer 6.54
fluorescent tagging 6.55
FM-AFM 4.11
FM detection 6.60
force, capillary 6.22
force, chemical 6.25
force constant 6.92
force-deflection curve (deprecated) 6.56
force-displacement curve 6.56
force-distance curve 6.56
force, electrostatic 6.44
force-extension curve (deprecated) 6.56
force, friction 6.62
force, lateral 6.77
force, magnetic 6.80
force, meniscus 6.81
force, normal 6.91
force, patch charge 6.95
force, piezo 6.99
force, piezoelectric 6.100
force, pull-in 6.123
force pulling 6.82
force, pull-off 6.124
force, pull-on 6.123
force sensor 6.57
force spectroscopy 6.58
force-volume mode 6.59
frequency modulation atomic force microscopy 4.11
frequency modulation detection 6.60
FRET 6.54
friction, dynamic 6.61
friction force 6.62
friction force microscopy 4.12
friction, static 6.63
FS 6.58
functionalized probe 6.64
functionalized tip 6.64

H

half tip angle (deprecated) 6.70
height tracking mode 6.65
Hertzian 5.5
Hertzian contact 6.66

I

illumination mode 6.67
illumination-collection mode 6.68
image 6.69
included half-angle 6.70
inelastic tunnelling 6.71
interfacial energy 6.72
intermittent contact mode 6.73
I-V spectroscopy 6.74
I-Z spectroscopy 6.75

J

JKR(S) 5.6
Johnson-Kendall-Roberts-(Sperling) 5.6
jump to contact (deprecated) 6.142

K

Kelvin probe 6.76
Kelvin-probe force microscopy 4.13
KPFM 4.13
KPM (deprecated) 4.13

L

lateral force 6.77
lateral force microscopy 4.14
lateral spring constant 6.78
LFM 4.14
linker molecule 6.79
local barrier height 6.10

M

MAC mode (deprecated) 4.15
magnetic AC mode (deprecated) 4.15
magnetic dynamic force microscopy 4.15
magnetic force 6.80
magnetic force microscopy 4.16
magnetic resonance force microscopy 4.17
map 6.69
material, piezoelectric 6.101
Maugis 5.7
Maugis-Dugdale 5.7
MDFM 4.15
meniscus force 6.81
micro cantilever 6.20
MFM 4.16
molecular pulling 6.82
MRFM 4.17
Multi-frequency mode 6.83

N

NA 6.93
nano-antenna 6.84
nanoindentation 6.85
nanomechanics 6.86
nanoparticle 6.87
NC-AFM 4.19
near field 6.88
near-field Raman microscopy 6.89
near-field scanning optical microscopy 4.18
non-contact atomic force microscopy 4.19
non-contact mode 6.90
normal force 6.91
normal spring constant 6.92
NSOM 4.18
numerical aperture 6.93

O

optical resolution 6.94

P

patch charge force 6.95
phase contrast 6.96
phase imaging 6.97
photobleaching 6.98
photothermal micro-spectroscopy 4.20
piezo force 6.99
piezoelectric force 6.100
piezoelectric material 6.101
piezoelectric sensor 6.102
piezoresistive 6.103
piezoresistive cantilever 6.104
pile up 6.105
pitch 6.106
planar subtraction mode 6.107
polarization 6.108
probe 6.109
probe apex 6.120
probe assembly 6.20
probe, carbon nanotube 6.23
probe characteriser 6.110
probe, composite 6.30
probe, chip (deprecated) 6.26
probe flank 6.111
probe, functionalized 6.64
probe, Kelvin 6.76
probe, lateral stiffness (deprecated) 6.78
probe length 6.112
probe shank 6.113
probe stiffness 6.114
probe support 6.115
probe support flank 6.116
probe support length 6.117
probe support shank 6.118
probe tilt angle 6.119
probe tip 6.120
probe tip (generated by an etching process) 6.46
probe, tilt compensated 6.158
protein unfolding 6.121
PTMS 4.20
pulled tip 6.122
pull-in force 6.123
pull-off force 6.124
pull-on force 6.123
pulsed force mode 6.125

Q

Q 6.127
Q control 6.126
quality factor (Q) 6.127

R

Raman effect 6.128
Raman microscopy, apertureless 4.2
Raman microscopy, near-field 6.89
Raman scattering, surface enhanced 6.151
Raman scattering, surface enhanced resonant 6.153
Raman spectroscopy 6.129
Raman spectroscopy, surface enhanced 6.152
Raman spectroscopy, surface enhanced resonant 6.154
raster scanning 6.130
Rayleigh criterion 6.131
reconstruction 6.132
reconstruction, blind 6.15
reflection mode 6.133
reflex side, cantilever (deprecated) 6.21
resolution, optical 6.94
resonance frequency 6.134

S

sample bias 6.135
scanner 6.136
scanner creep 6.137
scanner hysteresis 6.138
scanner, closed-loop 6.28
scanning capacitance microscopy 4.21
scanning chemical potential microscopy 4.22
scanning electrochemical microscopy 4.23
scanning force microscopy (deprecated) 4.3
scanning Hall probe microscopy 4.24
scanning ion conductance microscopy 4.25
scanning magneto-resistance microscopy 4.26
scanning Maxwell stress microscopy 4.27
scanning near-field optical microscopy 4.18
scanning near-field thermal microscopy 4.28
scanning near-field ultrasound holography 4.29
scanning non-linear dielectric microscopy 4.30
scanning probe microscopy 4.31
scanning rate 6.139
scanning spreading resistance microscopy 4.32
scanning surface potential microscopy 4.33
scanning thermal microscopy 4.34
scanning tunnelling microscopy 4.35
scanning tunnelling spectroscopy 4.36
scattering, anti-Stokes 6.4
scattering NSOM 4.37
scattering SNOM 4.37
SCM 4.21
SCPM 4.22
SECM 4.23
second harmonic generation 6.140
semi-vertical angle (deprecated) 6.70
sensor, piezoelectric 6.102
SERRS 6.153
SERRS 6.154
SERS 6.151
SERS 6.152
set point 6.141
SFM (deprecated) 4.3
shear force microscopy 4.38
ShFM 4.38
SHG 6.140
SHPM 4.24
SICM 4.25
sink in 6.142
skin depth 6.143
SMRM 4.26
SMSM 4.27
snap-in 6.144
snap-on 6.144
SNDM 4.30
SNFUH 4.29
SNOM 4.18
s-NSOM 4.37
SNTM 4.28
soft lithography 6.145
spin-polarized scanning tunnelling microscopy 4.39
spin-polarized scanning tunnelling spectroscopy 4.40
spin-resolved scanning tunnelling microscopy (deprecated) 4.39
SPM 4.31
spring constant 6.92
spring constant, lateral 6.78
spring constant, normal 6.92
spring constant, torsional 6.166
SP-STM 4.39
SP-STS 4.40
SRTM (deprecated) 4.39
s-SNOM 4.37
SSPM 4.33
SSRM 4.32
static AFM 4.41
static friction 6.63
static mode AFM 4.41
SThM 4.34
stiction 6.146

stiffness 6.147
STM 4.35
Stokes scattering 6.148
STS 4.36
stretching length 6.149
surface energy 6.150
surface enhanced Raman scattering 6.157
surface enhanced Raman spectroscopy 6.152
surface enhanced resonant Raman scattering 6.153
surface enhanced resonant Raman spectroscopy 6.154
surface patch charge 6.155

T

tapping mode 6.73
target group 6.156
TEFS 4.42
TERS 4.43
tether (deprecated) 6.79
thermal drift 6.157
tilt-compensated probe 6.158
tip 6.120
tip bias 6.159
tip characteriser 6.110
tip enhanced fluorescence spectroscopy 4.42
tip enhanced Raman spectroscopy 4.43
tip enhancement 6.160
tip, functionalised 6.64
tip radius <excl s-SNOM> 6.161
tip radius <s-SNOM> 6.162
tip, etched 6.46
tip, functionalized 6.64
tip-sample contact radius 6.163
tip side (of a cantilever) 6.164
topographic contrast 6.165
topography tracking mode 6.65
torsional spring constant 6.166
transmittance 6.167
tuning fork detection 6.168
tunnelling 6.169
tunnelling barrier 6.12
tunnelling barrier height 6.11
tunnelling barrier width 6.13
tunnelling, elastic 6.43
tunnelling, inelastic 6.71
tunnelling probability 6.170

U

UFM 4.44
ultrasonic force microscopy 4.44

V

van der Waals force 6.171
vector scanning 6.172

W

warp 6.173
Wollaston wire 6.174
work of adhesion 6.175
worm-like chain (polymers) 6.176