

ISO 17974:2002-10 (E)

Surface chemical analysis - High-resolution Auger electron spectrometers - Calibration of energy scales for elemental and chemical-state analysis

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative reference	1
3	Terms and definitions	1
4	Symbols and abbreviated terms	2
5	Outline of method	3
6	Procedure for calibrating the energy scale	6
6.1	Obtaining reference samples	6
6.2	Mounting samples	6
6.3	Cleaning samples	6
6.4	Choosing spectrometer settings for energy calibration	6
6.5	Operating the instrument	7
6.6	Options for initial or subsequent calibration measurements	7
6.7	Measurements for peak kinetic energy repeatability standard deviation and scale linearity	8
6.8	Calculating peak kinetic energy repeatability standard deviation	10
6.9	Determining relevant reference kinetic energies	12
6.10	Checking kinetic energy scale linearity	13
6.11	Procedure for regular calibration error determination	14
6.12	Procedures for correction of the instrument kinetic energy scale	15
6.13	Next calibration	17
6.14	Establishing calibration intervals	17
Annex A (normative)	Maximum number of points for a single application of Savitzky and Golay smoothing of peaks at 0,1 eV energy intervals	19
Annex B (normative)	Least squares determination of peak kinetic energy by a simple computational method	20
Annex C (informative)	Derivation of uncertainties	23
Annex D (informative)	Citation of uncertainties of measured kinetic energies	25
Bibliography		27