

ISO 13083:2015-08 (E)

Surface chemical analysis - Scanning probe microscopy - Standards on the definition and calibration of spatial resolution of electrical scanning probe microscopes (ESPMs) such as SSRM and SCM for 2D-dopant imaging and other purposes

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and abbreviated terms	1
5	General information	2
5.1	Background information	2
5.2	Target	2
5.2.1	Scanning capacitance microscope	2
5.2.2	Scanning spreading resistance microscope	2
5.3	Measurement method for lateral resolution in SCM and SSRM	3
5.4	Key parameters in determining the lateral resolution	5
6	Measurement of lateral resolution of SCM with the sharp-edge method	5
6.1	Background information	5
6.2	Selection of the sample	5
6.3	Setting the parameters before the operation of the instrument	6
6.4	Data collection	6
6.5	Data analysis	6
6.5.1	Obtaining the resolution	6
6.5.2	Random contributions to the resolution value	7
6.6	Recording of the parameters	7
7	Measurement of lateral resolution of SSRM with the sharp-edge method	8
7.1	Background information	8
7.2	Selection of the sample	8
7.3	Setting the parameters before the operation of the instrument	8
7.4	Data collection	8
7.5	Data analysis	8
7.5.1	Obtaining the resolution	8
7.5.2	Random contributions to the resolution value	9
7.6	Recording of the parameters	9
Annex A (informative)	An example of the measurement of SCM resolution	10
Annex B (informative)	An example of the measurement of SSRM resolution	12
Bibliography		14