

ISO 19214:2017-04 (E)

Microbeam analysis - Analytical electron microscopy - Method of determination for apparent growth direction of wirelike crystals by transmission electron microscopy

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Specimens	2
5	Analysis procedure	2
5.1	Setting the TEM operating condition	2
5.1.1	Preparation of the TEM	2
5.1.2	Accelerating voltage	2
5.1.3	Setting the specimen	2
5.1.4	Calibration of the rotation angle	2
5.2	Data acquisition	3
5.2.1	Select the target crystal	3
5.2.2	Obtaining diffraction patterns	3
5.2.3	Determining interplanar spacing	4
5.2.4	Index diffraction patterns	4
5.2.5	Non-uniqueness of the indexing result	5
5.3	Determination of the crystalline direction	5
5.3.1	General approach	5
5.3.2	Simplified procedure for special situations	8
5.3.3	Convert the crystallographic index	8
5.3.4	Result of the multiplicity factor	9
6	Uncertainty estimation	9
7	Test report	10
Annex A (informative)	Relationships of Miller notation and Miller-Bravais notation for hexagonal crystals	11
Annex B (informative)	Matrix G and G-1 for the crystal systems	12
Annex C (informative)	Example of a test report	14
Bibliography		15