

ISO 25498:2018-03 (E)

Microbeam analysis - Analytical electron microscopy - Selected area electron diffraction analysis using a transmission electron microscope

Contents		Page
Foreword		iv
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principle	3
4.1	General	3
4.2	Spot diffraction pattern	3
4.3	Kikuchi pattern	6
4.4	Polycrystalline specimen	7
5	Reference materials	7
6	Equipment	8
7	Specimens	8
8	Experimental procedure	8
8.1	Instrument preparation	8
8.2	Procedure for acquirement of selected area electron diffraction patterns	9
8.3	Determination of diffraction constant, L	12
9	Measurement and solution of the SAED patterns	13
9.1	Selection of the basic parallelogram	13
9.2	Indexing diffraction spots	15
10	180° ambiguity	16
11	Uncertainty estimation	16
11.1	Factors affecting accuracy	16
11.2	Calibration with a reference material	17
Annex A (informative) Interplanar spacing		18
Annex B (informative) Spot diffraction patterns of single crystals for BCC, FCC and HCP structure[7]		19
Bibliography		38