DIN ISO 15632:2022-09 (E)

Microbeam analysis - Selected instrumental performance parameters for the specification and checking of energy-dispersive X-ray spectrometers (EDS) for use with a scanning electron microscope (SEM) or an electron probe microanalyser (EPMA) (ISO 1563 2:2021)

Contents

Page

National foreword 3

National Annex NA (informative) Bibliography 4

Foreword 5

Introduction 6

1 Scope 7

2 Normative references 7

3 Terms and definitions 7

4 Requirements 9
4.1 General description 9
4.2 Energy resolution 10
4.3 Dead time 10
4.4 Peak-to-background ratio 10
4.5 Energy dependence of instrumental detection efficiency 11

5 Check of further performance parameters 11
5.1 General 11
5.2 Stability of the energy scale and resolution 11
5.3 Pile-up effects 11
5.4 Periodical check of spectrometer performance 11

Annex A (normative) Measurement of line widths (FWHMs) to determine the energy resolution of the spectrometer 12

Annex B (normative) Measurement of the L/K ratio as a measure for the energy dependence of the instrumental detection efficiency 17

Bibliography 19