

ISO 17862:2022-09 (E)

Surface chemical analysis - Secondary ion mass spectrometry - Linearity of intensity scale in single ion counting time-of-flight mass analysers

| Contents | | Page |
|---|---|-------------|
| Foreword | | iv |
| Introduction | | v |
| 1 | Scope | 1 |
| 2 | Normative references | 1 |
| 3 | Terms, definitions, symbols and abbreviated terms | 1 |
| 3.1 | Terms and definitions | 1 |
| 3.2 | Symbols | 1 |
| 3.3 | Abbreviated terms | 3 |
| 4 | Outline of method | 3 |
| 5 | Procedure for evaluating the intensity linearity | 5 |
| 5.1 | Obtaining the reference sample | 5 |
| 5.2 | Preparation for mounting the sample | 5 |
| 5.3 | Mounting the sample | 5 |
| 5.4 | Operating the instrument | 5 |
| 5.4.1 | General | 5 |
| 5.4.2 | Setting the ion beam | 6 |
| 5.4.3 | Setting the mass analyser | 6 |
| 5.5 | Acquiring the data | 7 |
| 5.6 | Checking the linearity | 10 |
| 5.6.1 | The relation of corrected and measured counts | 10 |
| 5.6.2 | The measured ratios for isotopes | 11 |
| 5.6.3 | Fitting the data | 12 |
| 5.6.4 | Assessing the linear region without and with any instrumental intensity correction | 12 |
| 5.6.5 | Correcting the intensity and checking the validity of any instrumental correction | 13 |
| 6 | Interval for repeat measurements | 15 |
| Annex A (normative) Computation of raster size, ion beam current, number of frames for analysis and counts per pulse | | 16 |
| Bibliography | | 18 |