
**Microbeam analysis — Electron probe
microanalysis — Methods for elemental-
mapping analysis using wavelength-
dispersive spectroscopy**

*Analyse par microfaisceaux — Analyse par microsonde électronique
(microsonde de Castaing) — Méthodes d'analyse par cartographie
élémentaire en utilisant la spectrométrie à dispersion de longueur d'onde*





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Foreword

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Introduction

Electron probe microanalysis (EPMA) has been developed over the last 50 years^{[1][2][3][4]} and has many areas of application in science and industry. Both qualitative and accurate quantitative analyses are employed extensively in mineralogy and in metallurgical studies, for example. In recent years, with the advances in computers, digital processing techniques have been developed and, instead of X-ray dot images being used to qualitatively observe element distributions, colour mapping techniques^[5] are now often employed. These enable products to be compared and evaluated for the purpose of quality control. Particle analysis and/or phase analysis using mapping requires careful selection of the experimental parameters, and it is essential that a standard be available for this purpose in order to achieve consistent and reliable results.

