



BSI Standards Publication

Surface chemical analysis — Glow discharge optical emission spectrometry (GD-OES) — Introduction to use

National foreword

This British Standard is the UK implementation of [ISO 14707:2021](#). It supersedes [BS ISO 14707:2015](#), which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee CII/60, Surface chemical analysis.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Surface chemical analysis — Glow discharge optical emission spectrometry (GD-OES) — Introduction to use

*Analyse chimique des surfaces — Spectrométrie d'émission optique à
décharge lumineuse — Introduction à son emploi*





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Foreword

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This document was prepared by Technical Committee ISO/TC 201, *Surface chemical analysis*, Subcommittee SC 8, *Glow discharge spectroscopy*.

This third edition cancels and replaces the second edition ([ISO 14707:2015](http://www.iso.org/iso/14707:2015)), of which it constitutes a minor revision.

The main changes compared to the previous edition are as follows:

— Editorial mistakes have been corrected.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Glow discharge optical emission spectrometry (GD-OES) is used to determine the elemental composition of solid samples. GD-OES can be used for either bulk or depth profile analysis. In bulk analysis, changes in elemental composition with depth into the specimen are assumed to be negligible. In contrast, the main goal of depth profile analysis is usually to gain information concerning such changes of composition. Layer thicknesses amenable to GD-OES depth profiling range from a few nanometres to approximately one hundred micrometres. An average of the concentration within the crater will be obtained and therefore the lateral resolution of GD-OES corresponds to the inner diameter of the anode.

As is true for any instrumental analysis method, the quality of a GD-OES analysis depends markedly on the correct optimization and operation of the instrumentation. This document provides guidelines of practice that are to be followed to ensure that GD-OES analyses are of the highest possible quality.