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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 22461.3-2026

**Surface chemical analysis - Vocabulary - Part 3: Terms used in
optical interface analysis**

表面化学分析 词汇 第3部分：光学界面分析术语
(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 3 of GB/T 22461, "Glossary of Terms for Surface Chemical Analysis". GB/T 22461 has already published the following parts.

---Part 1: General Terminology and Spectroscopic Terminology;

---Part 2: Scanning Probe Microscopy Terminology;

---Part 3: Optical Interface Analysis Terminology.

This document is equivalent to ISO 18115-3:2022 "Glossary of surface chemical analysis - Part 3: Terminology for optical interface analysis".

The following minimal editorial changes have been made to this document.

---Sources that were no longer valid have been removed;

---Modify the unit symbols for physical quantities in the notes of sections 3.2.41 and 3.2.42 to make them consistent with the unit names and more accurately reflect the physical quantities.

definition;

---The explanatory information in sections 3.2.21, 3.4.16, and 3.5.13 of ISO 18115-3:2022 has been moved to the notes;

The second one up to 3.6.23.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Surface Chemical Analysis (SAC/TC608).

Introduction

Spectroscopy and surface chemical analysis is an important field that involves communication between people from different fields and backgrounds.

Those who perform surface chemical analysis are likely materials scientists, chemists, or physicists, and their research background may be primarily experimental or theoretical.

Surface chemistry data is not only collected by the aforementioned personnel, but also by personnel from other disciplines.

The wide range of academic fields and different regional usages have led to different interpretations of terms, and the same concept may be described using different terms.

To avoid misunderstandings and facilitate information exchange, and to clarify concepts, GB/T 22461 "Glossary of Surface Chemical Analysis" is proposed.

It consists of three parts.

---Part 1: General Terminology and Spectroscopic Terminology. The aim is to define electron spectroscopy and mass spectrometry, general spectroscopy, and X-ray analysis.

Terminology related to this area.

---Part 2: Scanning Probe Microscopy Terminology. The purpose is to define the terminology related to scanning probe microscopy.

---Part 3: Terminology for Optical Interface Analysis. The purpose is to define the terminology used in optical spectroscopy, including general terms and optical...

The terminology for the optical properties of characteristics and materials; in terms of technology, the focus is on Raman spectroscopy, ellipsometrics, and nonlinear optics.

Technical terms.

The terminology in this document is arranged alphabetically by its corresponding English word and is categorized as follows. 3.1 General Terms, 3.2 Terms Related to the Properties

of Light, 3.3 Medium Terminology related to optical properties caused by mass-mass interactions; 3.4 Terminology related to ellipsometrics; 3.5 Terminology related to Raman spectroscopy; 3.6 Nonlinear...

Terminology related to sex optics technology. Some terms are not used within the scope of this chapter; a term mentioned in one chapter may also apply in another.

Surface chemical analysis terminology Part 3: Optical Interface Analysis Terminology

1 Scope

This document defines the terminology for surface chemical analysis in the field of optical interface analysis (including ellipsometrics, Raman spectroscopy, and nonlinear optics).

And common optical terminology.

This document is applicable to teaching, research, design, manufacturing, and writing of related technical documents and books on optical interface analysis in surface chemical analysis.

Publications and technical exchanges.

2 Normative references

This document has no normative references.

3.1 General Terminology

3.1.1

background signal

Signals generated at a specific location, energy, mass, or wavelength by processes or sources that are not of primary concern.

3.1.2

Charge-coupled device detector (CCD detector) CCD detector A semiconductor device that converts light into electrical signals.

Note: When a photon is absorbed by the detector, an electron is released. Electrodes covering the chip surface confine these electrons within an array well or pixel, enabling...

The charge distribution established during exposure corresponds to the light image.

3.1.3

compensator

A delay film with fixed or adjustable optical path difference, used to introduce an optical

path difference between two beams of light or to compensate for unwanted dispersion and time delay.

Optical path difference.

Note: See waveplate/delay plate (3.1.34).

[Source. GB/T 27668-2023, 3.1.27, with modifications] 3.1.4 an optical method that uses one or more pinholes to suppress light from outside the focal plane and detects only light from within the confocal volume (3.1.5).

Microscopy.

Note 1: An image formed by scanning to create an extended region.

Note 2: The confocal principle improves contrast and axial resolution by suppressing light from outside the focal plane.