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

GB/T 28892-2024

Replacing GB/T 28892-2012

**Surface chemical analysis - X-ray photoelectron spectroscopy -
Description of selected instrumental performance parameters**

表面化学分析 X射线光电子能谱 选择仪器性能参数的表述

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 28892-2012 "Table of performance parameters for selected instruments for surface chemical analysis X-ray photoelectron spectroscopy" Compared with GB/T 28892-2012, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) The terms and definitions have been changed (see Chapter 3, Chapter 3 of the 2012 edition);

b) Method 2 has been changed (see 5.9.3, 5.9.3 of the 2012 edition).

This document is equivalent to ISO 15470:2017 "Table of performance parameters for selected instruments for surface chemical analysis using X-ray photoelectron spectroscopy" "Statement".

Introduction

There are many manufacturers of X-ray photoelectron spectrometers around the world. Although the basic principle of XPS analysis method is the same for each instrument Although the specific design of instruments and the way in which their performance is described vary, it is often difficult to compare the performance of instruments produced by different manufacturers.

This document provides a basic list of items so that all X-ray photoelectron spectrometers can be described in a common way.

Manufacturer's instructions, which can be 30 pages long or more. This document is intended to make certain items identified in the manufacturer's instructions more specific.

Have consistent and clear meaning.

Surface chemical analysis X-ray photoelectron spectroscopy Select the statement of instrument performance parameters

1 Scope

This document describes a method for expressing specific performance parameters of X-ray photoelectron spectrometers.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

Note: GB/T 22461.1-2023 Vocabulary for surface chemical analysis Part 1: General terms and spectral terms (ISO 18115-1:2013, IDT) GB/T 22461.2-2023 Vocabulary for surface chemical analysis Part 2: Terminology for scanning probe microscopy (ISO 18115-2:2021, MOD)

3 Terms and definitions

For the purpose of this document, the terms and definitions defined in ISO 18115 (all parts) apply.

4 Abbreviations

The following abbreviations apply to this document.

5.1 Analysis methods

The methods used to obtain information from the samples should be briefly described, and alternative analytical techniques should be described for the system under consideration.

5.2 Samples

The sample sizes and shapes that can be analyzed by the instrument under normal operation should be given.

If there are restrictions on sample size or shape (such as measurement of peripheral volume, etc.), they should be explained in detail.

5.3 System composition

The design geometry and tolerances of the important analysis components of the system should be described.

Example. Angle tolerance is often $\pm 1^\circ$.