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

GB/T 46435.3-2025

**Photography - Psychophysical experimental methods for
estimating image quality - Part 3: Quality ruler method**

摄影 评价影像质量的心理物理学实验方法 第3部分：质量标尺法

(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 46435, "Psychophysical Experimental Methods for Evaluating Image Quality in Photography".

The following sections have been released.

---Part 3: The Quality Scale Method this document is equivalent to ISO 20462-3:2012 "Psychophysical experimental methods for evaluating image quality in photography - Part 3: Quality".

Scale method.

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 by the China Petroleum and Chemical Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Photosensitive Materials (SAC/TC102).

Introduction

In many cases, it is desirable to quantify image quality in a standardized manner to facilitate the interpretation of results from a given experiment and/or the comparison of different real-world results.

The results of the tests. Such information can be used to evaluate the performance of different shooting or display devices, image processing algorithms, etc., under various conditions.

It can be valuable. However, choosing the best psychometric method for a specific application can be difficult, and the rating levels generated by numerical analysis...

Interpretations are often ambiguous. Furthermore, no commonly used rating technique is available for comparing or integrating results from different experiments.

An effective mechanism for calibrating results against standardized numerical levels or

relevant physical references. GB/T 46435 "Photographic Evaluation of Image Quality" the "Psychophysical Experimental Methods" aims to establish psychophysical evaluation criteria applicable to image quality and is proposed to consist of three parts.

---Part 1: Overview of Psychophysical Elements. The aim is to identify psychophysical experimental methods suitable for evaluating image quality.

The elements and related rules.

---Part 2: The Triple Comparison Method. The aim is to provide a psychophysical experimental method for evaluating image quality.

---Part 3: Quality Scale Method. The aim is to provide a psychophysical experimental method for evaluating image quality.

ISO 20462-1, ISO 20462-2 and this document address the need for recording methods that determine image quality in a calibrated manner.

ISO 20462-1[1] provides a practical overview of psychophysics and helps in the comparison between ISO 20462-2 (triple comparison method[2][3][4]) and ISO 20462 the better choice is determined between the two alternative methods described in this part (the quality scale method [5]). The two techniques are complementary and combined Together, they are sufficient to achieve a wide range of practical applications. ISO 20462-2 and this document the specific test methods and related data simplification techniques.

Techniques. The purpose of these methods is to produce results that are not only directional but also expressed in relative or fixed hierarchical terms.

The gradation is calibrated based on the minimum perceptible differences (JNDs), which makes it easy to determine the importance of the stimulus differences measured in the experiment.

The quality scaling method described in this document is particularly suitable for measuring quality differences exceeding one JND. The observer-given rating can...

It is converted to JND values in real time without waiting for the entire experimental dataset to be collected and analyzed.

Furthermore, under appropriate reference stimuli, the quality scale method allows for the reporting of results using a standard quality grade (SQS), which is a fixed...

Numerical level, this level.

- a) Based on physical standards;
- b) Has a unit corresponding to a JND;
- c) It has a zero point corresponding to "images with almost no recognizable information content".

When these images are displayed and viewed correctly on a high-quality monitor, they will have approximately known absolute SQS values and accurately known relative SQS values.

SQS values (JNDs). The image includes software used to run the soft copy quality scale experiment. This document also describes how the user can use the positive...

Accurate relative calibration allows for the convenient generation of your own quality scale image, and absolute calibration can be performed according to SRS if needed.

This document may involve the use of US Patent No. US6639999, "Apparatus for Evaluating the Overall Quality of Hard Copy Images," and other US patents.

US6658139, "Methods for evaluating the overall quality of digital images".

US Patent 6639999, "Apparatus for Evaluating the Overall Quality of Hard Copy Images" (Patentee. Eastman Kodak), has been...

It expired on October 28, 2007.

Patent US6658139, "Method for evaluating the overall quality of digital images" (patentee. Eastman Kodak), was filed in 2011.

It expires on December 2nd.

Psychophysical experiments for evaluating image quality in photography Method Part 3: Mass Scale Method

1 Scope

This document stipulates that.

- a) The nature of the mass scale;
- b) Implementation of hard and soft copies of the quality benchmark;
- c) How to generate or obtain a quality scale;
- d) Standard Quality Grade (SQS), a grade with a fixed value that can be measured using a quality scale.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.