

ICS 07.040
CCS A77



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

GB/T 12979-2024

Replacing GB/T 12979-2008

Specifications for close-range photogrammetry

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Issued on: August 23, 2024

Implemented on: March 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

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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 12979-2008 "Specification for Close Range Photogrammetry". Compared with GB/T 12979-2008, except for structural adjustments and In addition to editorial changes, the main technical changes are as follows:

- a) Changed the scope, deleted "simulation and analytical methods", and changed "accuracy requirements, results specifications, and image data acquisition and processing" Methods" are "technical requirements for accuracy, object space control, acquisition of close-range images, data processing and accuracy verification, and results data". (See Chapter 1, Chapter 1 of the.2008 edition);
- b) Added a chapter on "Terms and Definitions" (see Chapter 3);
- c) Deleted the "simulation method accuracy" (see 3.1.2 of the.2008 edition) and "analytical method accuracy" (see 3.1.3 of the.2008 edition) from the "basic requirements". 3.1.3);
- d) Added "verification method" (see 4.2, 5.5, 6.5, 7.2, 8.1, 8.3);
- e) Deleted "Coordinate system and projection plane" (see 4.2 of the.2008 edition) and "Artificial signs" (see 4.5 of the.2008 edition), and added "Object "square space coordinate system" (see 5.1);
- f) Deleted "Camera system" (see 5.1 of the.2008 edition) and "Accuracy estimation" (see 5.5 of the.2008 edition), and changed "Camera inspection" to "Revision" is added to Appendix B (see Appendix B,

1 Scope

GB/T 12979-2024 is the Chinese national standard on specifications for close-range photogrammetry, in the field of natural and applied sciences. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 23 August 2024 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 March 2025. Classification: ICS 07.040, CCS A77. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the accuracy, object space control, acquisition of close-range images, data processing and accuracy verification, and results data of close-range photogrammetry. technical requirements. This document is applicable to the application of close-range photogrammetry technology in building (structure) measurement, cultural heritage protection, industrial measurement, biomedicine, etc. Application, other fields can

refer to it.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 At two known control points or at both ends of a baseline of known length, the horizontal and vertical angles of the point to be determined are measured to determine the coordinates of the point to be determined. Target method.

3.2 Standard length method A method for determining the length of the baseline to be determined by measuring the known length of a standard placed in front of the baseline to be determined by measuring the angle forward intersection (3.1).

4 Accuracy

4.1 Accuracy Index The accuracy of close-range photogrammetry should be expressed in terms of the relative mean error md/D (md represents the mean error of the photographic direction), difference, D represents the photographic distance) or the relative mean error represented by the size of the target object ms/S (ms represents the mean error in measuring the length of the target object in a certain direction) The error can also be expressed by the mean error of the measured point. The accuracy index is determined according to user needs.

4.2 Accuracy Estimation Close-range photogrammetry should be estimated according to the photographic method, and the accuracy can be evaluated by redundant control points, redundant relative control, etc. Estimate and keep records.

5 Object Control

5.1 Object Space Coordinate System The object space coordinate system is a three-dimensional rectangular coordinate system. Generally, a free coordinate system is used. If necessary, it can be combined with other coordinate systems or 2000 national