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**Determination of wavefront aberration in optical
systems-Electro-optical Shack-Hartmann method**

光学系统波前像差的测定 夏克-哈特曼光电测量法

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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 is required.

Please note that some of the contents of this document may involve patents. The issuing

organization of this document does not assume the responsibility for identifying patents.

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Measurement of wavefront aberration of optical system Shack-Hartmann photoelectric measurement method

1 Scope

This document describes the principle and method of measuring wavefront aberration of optical systems using the Shack-Hartmann method, the measurement conditions, equipment and devices, Measurement steps and measurement data processing.

This document is applicable to the measurement of wavefront aberration of optical systems using the Shack-Hartmann method, and is also applicable to the measurement of surface deviation of optical parts. Measurement.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Wavefront

The isophase surface of light waves during propagation.

[Source. GB/T 13962-2009, 2.28]

3.2 Wavefront aberration

The deviation of a wavefront from the ideal wavefront.

[Source. GB/T 41869.2-2022, 3.1, modified]

3.3 surface form deviationsurface form deviation

The deviation of an optical surface under test relative to a reference optical surface.

[Source. GB/T 2831-2009, 3.1]

3.4 Wavefront reconstruction

The process of obtaining the phase distribution of the incident wavefront by calculating the slope of the sub-aperture.

3.5 Diameter

The clear aperture of an optical part or system that an instrument can inspect.

3.6 Autocollimation method

The collimated light emitted by the collimator is irradiated on the sample, and then reflected back to the collimator by the sample, and the image near the focus is measured.

The method of tilting the sample, etc. can be used for alignment, focusing, and measuring small displacements and angles.