



SLOVENSKI STANDARD
SIST EN ISO 11670:2000
01-julij-2000

Laserji in laserska oprema - Preskusne metode za parametre laserskega žarka - Stabilnost položaja žarka (ISO 11670:1999)

Lasers and laser-related equipment - Test methods for laser beam parameters - Beam positional stability (ISO 11670:1999)

Laser und Laseranlagen - Prüfverfahren für Laserstrahlparameter - Strahllagestabilität (ISO 11670:1999)

Lasers et équipements associés aux lasers - Méthodes d'essai des paramètres des faisceaux laser - Stabilité de visée du faisceau (ISO 11670:1999)

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Ta slovenski standard je istoveten z: EN ISO 11670:1999

ICS:

31.260	Optoelektronika, laserska oprema	Optoelectronics. Laser equipment
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 11670

August 1999

ICS 31.260; 37.020

English version

Lasers and laser-related equipment - Test methods for laser beam parameters - Beam positional stability (ISO 11670:1999)

Lasers et équipements associés aux lasers - Méthodes d'essai des paramètres des faisceaux laser - Stabilité de visée du faisceau (ISO 11670:1999)

Laser und Laseranlagen - Prüfverfahren für Laserstrahlparameter - Strahllagestabilität (ISO 11670:1999)

This European Standard was approved by CEN on 25 June 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

The text of the International Standard ISO 11670:1999 has been prepared by Technical Committee ISO/TC 172 "Optics and optical instruments" in collaboration with Technical Committee CEN/TC 123 "Lasers and laser related equipment", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2000, and conflicting national standards shall be withdrawn at the latest by February 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 11670:1999 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

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ALTERNATIVE TITLE: SIST EN ISO 11670:2000
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Annex ZA (normative)
Normative references to international publications
with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 11145	1994	Optics and optical instruments - Lasers and laser related equipment - Vocabulary and symbols	EN ISO 11145	1994
ISO 11146	1999	Laser and laser-related equipment - Test methods for laser beam parameters - Beam widths, divergence angle and beam propagation factor	EN ISO 11146	1999

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INTERNATIONAL
STANDARD

ISO
11670

First edition
1999-08-01

**Lasers and laser-related equipment — Test
methods for laser beam parameters —
Beam positional stability**

*Lasers et équipements associés aux lasers — Méthodes d'essai des
paramètres des faisceaux laser — Stabilité de visée du faisceau*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 11670 was prepared by Technical Committee ISO/TC 172, *Optics and optical instruments*, Subcommittee SC 9, *Electro-optical systems*.

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Introduction

The centre of a laser beam is defined as the centroid or first-order spatial moment of the power density distribution. The current propagation axis of a beam is then the straight line connecting two centroids measured at two different planes simultaneously in a uniform, homogeneous medium. Beam axis instability may be characterized by transverse displacements and angular movements that are either monotonic, periodic or stochastic in time.

It is unlikely that the movement of a laser beam will be randomly distributed and uniform in amplitude in all directions. In general, the beam may move a greater amount in one direction. If one direction predominates, the procedures specified in this International Standard can be used to identify that dominant direction (the beam x -axis) and its azimuthal location relative to the axes of the laboratory system.

This International Standard provides general principles for the measurement of these quantities. In addition, definitions of terminology and symbols to be used in referring to beam position are provided.

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