

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

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EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

See Eesti standard EVS-EN ISO 11670:2000 sisaldab Euroopa standardi EN ISO 11670:1999 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 11670:2000 consists of the English text of the European standard EN ISO 11670:1999.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 01.08.1999.	Date of Availability of the European standard is 01.08.1999.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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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 - Strahlagestabilität (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.

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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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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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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.