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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

Amendment 1 to ISO 11145:2001 was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 9, *Electro-optical systems*.

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Optics and optical instruments — Lasers and laser-related equipment — Vocabulary and symbols

AMENDMENT 1

Page 3

Add the following definition after 3.1 beam axis:

misalignment angle

$\Delta\vartheta$

deviation of the beam axis from the mechanical axis defined by the manufacturer

Page 7

Add the following definitions after 3.5.2 beam widths:

ellipticity of a power density distribution

ε

ratio between the minimum and maximum beam widths

[3.6 of ISO 11146-1:--]

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circular power density distribution

power density distribution having an ellipticity greater than 0,87

[3.7 of ISO 11146-1:--]

Page 8, sub-clause 3.9

Replace definition 3.9 by the following:

3.9

beam positional stability

$\Delta_x(z')$, $\Delta_y(z')$

four times the standard deviation of the measured beam positional movement at plane z'

[3.6 of ISO 11670:2003]

NOTE These quantities are defined in the beam axis system x, y, z . If ellipticity of the beam positional stability is greater than 0,87, the beam positional stability is regarded as rotationally symmetric and only one number may be given. The symbol $\Delta(z')$ without index is used in that case.

Add the following group of definitions after 3.11.2 beam waist diameter:

Beam waist separations

astigmatic waist separation

$$\Delta z_a$$

axial distance between the beam waist locations in the orthogonal principal planes of a beam possessing simple astigmatism

[3.3.4 of ISO 15367-1:2003]

NOTE Astigmatic waist separation is also known as astigmatic difference.

relative astigmatic waist separation

$$\Delta z_r$$

astigmatic waist separation divided the arithmetic mean of the Raleigh lengths z_{Rx} and z_{Ry}

$$\Delta z_r = \frac{2\Delta z_a}{z_{Rx} + z_{Ry}}$$

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Add the following definition after 3.51 pulse repetition rate:

<https://standards.iteh.ai/catalog/standards/sist/1e61893d-d23c-4fe6-b60d-e51bb80be46b/iso-11145-2001-damd-1>

relative intensity noise

RIN

$$R(f)$$

the single-sided spectral density of the power fluctuations normalized to the square of the average power as a function of the frequency f .

NOTE The relative intensity noise $R(f)$ or RIN as defined above is explicitly spoken the "relative intensity noise spectral density", but usually simply referred to as RIN.

Annexe ZA (informative)

Relationship between this International Standard and the Essential Requirements of EU Directive 98/37

By agreement between ISO and CEN, this CEN annex is included in the DIS and the FDIS but will not appear in the published ISO standard.

This International Standard has been prepared under a mandate given to CEN by the European Commission to provide one means of conforming to Essential Requirements of the New Approach Directive 98/37.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements of that Directive and associated EFTA regulations.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

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