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BSI Standards Publication

Laser display devices

Part 5-2: Optical measuring methods of speckle contrast

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The UK participation in its preparation was entrusted to Technical Committee EPL/47, Semiconductors.

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Part 5-2: Optical measuring methods of speckle contrast

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LASER DISPLAY DEVICES –

Part 5-2: Optical measuring methods of speckle contrast

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International Standard IEC 62906-5-2 has been prepared by IEC technical committee 110: Electronic display devices.

The text of this standard is based on the following documents:

FDIS	Report on voting
110/760/FDIS	110/768/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62906 series, published under the general title *Laser display devices*, can be found on the IEC website.

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- withdrawn,
- replaced by a revised edition, or
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LASER DISPLAY DEVICES –

Part 5-2: Optical measuring methods of speckle contrast

1 Scope

This part of IEC 62906 specifies the standard measurement conditions and measurement methods for determining the monochromatic speckle contrast of laser display devices (LDDs). The LDDs may include hybrid types using both a laser or lasers, and spontaneous emission-based light sources, such as LEDs.

NOTE The monochromatic speckle contrast measurements do not include image quality issues.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60825-1, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 62906-1-2:2015, *Laser display devices – Part 1-2: Vocabulary and letter symbols*

3 Terms, definitions and abbreviations

For the purposes of this document, the terms and definitions given in IEC 62906-1-2, as well as the following apply.

3.1 Terms and definitions

3.1.1
fully developed speckle
FDS
speckle when the speckle contrast ratio is equal to one (C_s = 1)

[SOURCE: Goodman:2006] [1][1]

3.2 Abbreviations

DN digital number
DUT device under test
LD laser diode
LMD light measuring device
MTF modulation transfer function
NA numerical aperture
PPUT projection plane under test
PSF point spread function

[1] Numbers square brackets refer to the bibliography.

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