

**BUREAU OF INDIAN STANDARDS**  
**DRAFT FOR COMMENTS ONLY**

*NOT TO BE REPRODUCED WITHOUT PERMISSION OF BIS OR USE AS STANDARD.*

PGD 39 (22132)  
IS 14965 : XXXX  
ISO 12005 : 2022  
November 2023

---

*भारतीय मानक मसौदा*

**लेजर एवं लेजर संबंधित उपकरण — लेजर बीम मापदंडों के  
परीक्षण की पद्धतियाँ — ध्रुवीकरण**  
( IS 14965 का दूसरा पुनरीक्षण )

*Draft Indian Standard*

**Lasers and Laser-related Equipment — Test Methods for Laser Beam  
Parameters — Polarization**

*( Second Revision of IS 14965 )*

ICS 31.260

---

Optics and Photonics Sectional Committee, PGD 39

---

## NATIONAL FOREWORD

*(Formal clause will be added later)*

This standard was originally published in 2001. First revision was based on ISO 12005 : 2003 ‘Lasers and Laser-Related Equipment — Test Methods for Laser Beam Parameters Polarization’. This revision has been taken to align it with the latest version of ISO 12005.

The major changes incorporate in this revision are as follows:

- a) Description errors in **4.5** (analysis of the results) have been corrected;
- b) Definitions of the “degree of polarization” and the “degree of linear polarization” have been made clear;
- c) Definition of extinction ratio has been changed; and
- d) Clauses **3.3** (direction of polarization), **3.4** (plane of polarization), and **3.5** (ellipticity) have been deleted because these terms are confusing due to the different definitions, and they are not necessarily required for this document. Clause **3.11** (Stokes parameters) has been deleted and moved to Annex A because it is not used in the measurement and analysis.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminology and conventions are however not identical to those used in Indian Standards Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as decimal marker while in Indian Standards, the current practice is to use a full point (.) as the decimal marker.

In this adopted standard, references appear to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated

| <i>International Standard</i>  | <i>Corresponding Indian Standard</i>  | <i>Degree of Equivalence</i> |
|--|---|------------------------------|
| ISO 11145 Optics and photonics — Lasers and laser-related equipment — Vocabulary and symbols   | IS/ISO 11145 : 2018 Optics and optical instruments — Lasers and laser - related equipment — Vocabulary and symbols  | Identical                    |
| ISO 11554 Optics and photonics — Lasers and laser-related equipment — Test methods for laser beam power, energy and temporal characteristics | IS 14963 : 2023/ISO 11554 : 2017 Optics and optical instruments - Lasers and laser - related equipment — Test methods for laser beam power, energy and temporal characteristics | Identical                    |

The technical committee has reviewed the provisions of the following International Standard referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard:

| <i>International Standard</i> | <i>Title</i>  |
|-------------------------------|---|
| CIE 059 : 1984                | Definitions and Nomenclature, Instrument Polarization |

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’.

NOTE: The technical content of draft standard is not available on website. For details please contact:

**Head**

**Production and General Engineering Department**

**Bureau of Indian Standards**

**9 Bahadur Shah Zafar Marg New Delhi-110002**

**Email: [pgd@bis.org.in](mailto:pgd@bis.org.in)**

**Telefax:011-23234819**