

This document is a preview generated by EVS

**Integrated optics - Vocabulary - Part 1:
Basic terms and symbols**

Integrated optics - Vocabulary - Part 1: Basic terms
and symbols

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 11807-1:2005 sisaldab Euroopa standardi EN ISO 11807-1:2005 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 28.04.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 11807-1:2005 consists of the English text of the European standard EN ISO 11807-1:2005.</p> <p>This document is endorsed on 28.04.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p>Käsitlusala: This part of ISO 11807 defines basic terms for integrated optical devices, their related optical chips and optical elements which find application, for example, in the fields of optical communications and sensors.</p>	<p>Scope: This part of ISO 11807 defines basic terms for integrated optical devices, their related optical chips and optical elements which find application, for example, in the fields of optical communications and sensors.</p>
--	--

ICS 01.040.31, 31.260

Võtmesõnad:

ICS 01.040.31; 31.260

English version

Integrated optics – Vocabulary

Part 1: Basic terms and symbols

(ISO 11807-1:2001)

Optique intégrée – Vocabulaire –
Partie 1: Termes fondamentaux et
symboles (ISO 11807-1:2001)

Integrierte Optik – Begriffe – Teil 1:
Grundbegriffe und Formelzeichen
(ISO 11807-1:2001)

This European Standard was approved by CEN on 2005-02-07.

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 Management Centre or to any CEN member.

The European Standards exist 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Management Centre: 36, rue de Stassart, B-1050 Brussels

Foreword

International Standard

ISO 11807-1:2001 Integrated optics – Vocabulary – Part 1: Basic terms and symbols, which was prepared by ISO/TC 172 'Optics and optical instruments' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 123 'Lasers and laser-related equipment', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by September 2005 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 11807-1:2001 was approved by CEN as a European Standard without any modification.

This document is a preview generated by EVS

Introduction

The aim of this part of ISO 11807 is to clarify the terms of the relatively new field of "integrated optics" and to define a unified vocabulary at a time when the first products are coming onto the market. It is expected that this part of ISO 11807 will be revised periodically to adopt the requirements of customers and suppliers of integrated optical products. At a later stage, it is planned to add definitions from other International Standards which deal with integrated optics.

Some of the definitions are closely related to definitions given in IEC 60050, *International electrotechnical vocabulary*. Wherever this can lead to misunderstanding, integrated optics or integrated optical waveguide should be used together with the defined term.

1 Scope

This part of ISO 11807 defines basic terms for integrated optical devices, their related optical chips and optical elements which find application, for example, in the fields of optical communications and sensors.

Terms used for classification are given in ISO 11807-2.

The symbols and units defined in detail in clause 3 are listed in Table A.1.

2 Coordinate system

To describe the propagation of optical radiation in integrated optical waveguides, a Cartesian coordinate-system is used where the z -axis corresponds to the direction of propagation and the x -axis is perpendicular to the substrate surface.

In geometrical optics, the coordinate system in which the y -axis is perpendicular to the substrate has been used. However, in the slab waveguide, which is the simplest waveguide structure, the two-dimensional coordinate system xz is used and, when the waveguide is changed to a channel waveguide, the y -axis is added. Therefore, the coordinate system in this part of ISO 11807 is defined as shown in Figure 1.

1 Domaine d'application

La présente partie de l'ISO 11807 définit les termes de base pour les dispositifs d'optique intégrée, leurs circuits et leur éléments optiques. Ils trouvent leur application dans les domaines des communications optiques et des détecteurs par exemple.

Les termes utilisés pour la classification sont donnés dans l'ISO 11807-2.

Les symboles et unités définis en détail dans l'article 3 sont présentés dans le Tableau A.1.

2 Système de coordonnées

Pour décrire la propagation de la lumière dans les guides d'onde d'optique intégrée, un système cartésien de coordonnées est utilisé, où l'axe z correspond à la direction de propagation de la lumière et où l'axe x est perpendiculaire à la surface du substrat.

En optique géométrique, le système de coordonnées utilisé est celui dans lequel l'axe y est perpendiculaire au substrat. Toutefois, dans le guide d'onde plan qui est une structure de guide d'onde plus simple, le système de coordonnées bidimensionnel xz est utilisé, et lorsque le guide d'onde est changé contre un microguide d'onde, l'axe y est ajouté. Par conséquent, le système de coordonnées dans la présente partie de l'ISO 11807 est défini comme montré à la Figure 1.