

Title (en)

APODIZATION OF OPTICAL FILTERS FORMED IN PHOTOSENSITIVE MEDIA

Title (de)

APODISATION VON IN PHOTOSENSITIVEN MEDIEN GEBILDETEN OPTISCHEN FILTERN

Title (fr)

APODISATION DE FILTRES OPTIQUES FORMES DANS DES MILIEUX PHOTOSENSIBLES

Publication

EP 1092165 A4 20050622 (EN)

Application

EP 99932157 A 19990630

Priority

- US 9914942 W 19990630
- US 9154798 P 19980701

Abstract (en)

[origin: WO0002068A1] Filter gratings are formed in optical waveguides (50) having photosensitive cores by exposing the cores to actinic radiation in the form of interfering beams (38, 40) having peak intensities (72, 74) that are relatively displaced along an optical axis (64) of the waveguides. Each of the interfering beams has a single-lobed intensity profile and a degree of spatial coherence required to achieve a desired fringe contrast between the two relatively displaced beams. Index modulations in the photosensitive core match the illumination (interference) pattern of the radiation. The relative displacement of the interfering beams reduces side lobes of the gratings' spectral responses by leveling the average refractive index of the index modulations. A second exposure with the two beams but without the beams' interference effects further levels the average refractive index.

IPC 1-7

G02B 6/34

IPC 8 full level

G02B 6/13 (2006.01); **G02B 5/18** (2006.01); **G02B 6/02** (2006.01); **G02B 6/122** (2006.01); **G02B 27/58** (2006.01); **G02B 6/34** (2006.01)

CPC (source: EP KR)

G02B 6/02085 (2013.01 - EP KR); **G02B 6/02133** (2013.01 - EP KR); **G02B 6/02138** (2013.01 - EP KR); **G02B 6/29347** (2013.01 - EP KR); **G02B 27/58** (2013.01 - EP KR)

Citation (search report)

- [PX] WO 9836296 A1 19980820 - UNIPHASE FIBRE COMPONENTS PTY [AU], et al
- [X] EP 0684491 A1 19951129 - NORTHERN TELECOM LTD [CA]
- [XA] WO 9722023 A1 19970619 - BRITISH TELECOMM [GB], et al
- [XA] EP 0805365 A2 19971105 - FUJIKURA LTD [JP]
- [A] US 5655040 A 19970805 - CHESNOY JOSE [FR], et al
- [XA] GUY M ET AL: "Simple and flexible technique for spectrally designing all-fibre filter and apodizing fibre gratings", IOOC - ECOC '97. 11TH INTERNATIONAL CONFERENCE ON INTEGRATED OPTICS AND OPTICAL FIBRE COMMUNICATIONS / 23RD EUROPEAN CONFERENCE ON OPTICAL COMMUNICATIONS. EDINBURGH, SEPT. 22 - 25, 1997, IEE CONFERENCE PUBLICATION, LONDON : IEE, UK, vol. VOL. 3 NO. 448, 22 September 1997 (1997-09-22), pages 195 - 198, XP006508587, ISBN: 0-85296-697-0
- [XA] SINGH H ET AL: "Apodized fiber gratings for DWDM using variable efficiency phase masks", VERTICAL-CAVITY LASERS, TECHNOLOGIES FOR A GLOBAL INFORMATION INFRASTRUCTURE, WDM COMPONENTS TECHNOLOGY, ADVANCED SEMICONDUCTOR LASERS AND APPLICATIONS, GALLIUM NITRIDE MATERIALS, PROCESSING, AND DEVICES, 1997 DIGEST OF THE IEEE/LEOS SUMMER TOPICAL M, 11 August 1997 (1997-08-11), pages 76 - 77, XP010243215, ISBN: 0-7803-3891-X
- [A] CORTÈS P-Y ET AL: "Intrinsic apodisation of Bragg gratings written using UV-pulse interferometry", ELECTRONICS LETTERS, IEE STEVENAGE, GB, vol. 34, no. 4, 19 February 1998 (1998-02-19), pages 396 - 397, XP006009346, ISSN: 0013-5194
- See references of WO 0002068A1

Designated contracting state (EPC)

DE FR GB IT SE

DOCDB simple family (publication)

WO 0002068 A1 20000113; AU 4852399 A 20000124; CA 2336329 A1 20000113; CN 1342269 A 20020327; EP 1092165 A1 20010418; EP 1092165 A4 20050622; JP 2002519742 A 20020702; KR 20010053247 A 20010625

DOCDB simple family (application)

US 9914942 W 19990630; AU 4852399 A 19990630; CA 2336329 A 19990630; CN 99810053 A 19990630; EP 99932157 A 19990630; JP 2000558408 A 19990630; KR 20007014919 A 20001228