

Title (en)
COMMUNICATION SYSTEM AND SPLIT-BAND AMPLIFYING APPARATUS USING A DEPRESSED-PROFILE FIBER AMPLIFIER

Title (de)
KOMMUNIKATIONSSYSTEM UND BANDAUFGETEILTE VERSTÄRKUNGSVORRICHTUNG MIT EINEM FASERVERSTÄRKER MIT GEDRÜCKTEM PROFIL

Title (fr)
SYSTEME DE COMMUNICATION ET APPAREIL D'AMPLIFICATION A BANDE DIVISEE METTANT EN OEUVRE UN AMPLIFICATEUR A FIBRE A PROFIL DEPRIME

Publication
EP 1488548 A4 20091111 (EN)

Application
EP 03713955 A 20030307

Priority

- US 0306967 W 20030307
- US 9530302 A 20020308
- US 18656102 A 20020628
- US 34696003 A 20030117

Abstract (en)
[origin: WO03076979A2] An optical communication system (200) and a split-band amplifying apparatus (212) that amplifies optical signals whose short wavelength band includes at least a portion of the S-band and whose long wavelength band includes at least a portion of the C- and/or L-band. The amplifying apparatus (212) has a first (212A) and second section (212B) for respectively amplifying the long and short wavelength bands. The second section (212B) comprises a short-pass fiber (10) with a core (12) doped with an active material (18) such as Erbium. A pump source pumps the Erbium to a level of high relative inversion D such that the Erbium exhibits positive gains in the S-band and high gains in a long wavelength band longer than the S-band, i.e., in the C- and L-Bands. The core (12) is surrounded by a depressed cladding (14), which is surrounded by a secondary cladding (16). The core (12) has a core cross-section and a refractive index n_0 , the depressed cladding (14) has a depressed cladding cross-section and a refractive index n_1 , and the secondary cladding (16) has a secondary cladding cross-section and a refractive index n_2 . The core cross-section, the depressed cladding cross-section and the refractive indices n_0 , n_1 , and n_2 are selected to obtain losses at least comparable to the high gains in the long wavelength band and losses substantially smaller than the positive gains in the S-band. The fiber amplifier functions as a pre-amplifier, a power-boosting amplifier or an in-line amplifier in the optical communication system.

IPC 8 full level
G02B 6/028 (2006.01); **H01S 3/00** (2006.01); **G02B 6/036** (2006.01); **H01S 3/067** (2006.01); **H01S 3/10** (2006.01); **H01S 3/23** (2006.01); **H04B 10/29** (2013.01); **H04B 10/291** (2013.01); **H04J 14/00** (2006.01); **H04J 14/02** (2006.01)

CPC (source: EP)
H01S 3/06758 (2013.01); **H01S 3/2375** (2013.01); **H01S 3/06716** (2013.01); **H01S 3/0672** (2013.01); **H01S 3/06729** (2013.01); **H01S 3/06766** (2013.01); **H01S 3/0677** (2013.01); **H01S 3/06775** (2013.01)

Citation (search report)

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- See references of WO 03076979A2

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
WO 03076979 A2 20030918; **WO 03076979 A3 20040205**; **WO 03076979 A9 20040304**; AU 2003217978 A1 20030922; AU 2003217978 A8 20030922; CA 2478416 A1 20030918; CN 1327221 C 20070718; CN 1638630 A 20050713; EP 1488548 A2 20041222; EP 1488548 A4 20091111; JP 2005520323 A 20050707

DOCDB simple family (application)
US 0306967 W 20030307; AU 2003217978 A 20030307; CA 2478416 A 20030307; CN 03805598 A 20030307; EP 03713955 A 20030307; JP 2003575148 A 20030307