

Title (en)  
NANOWIRES AND NANORIBBONS AS SUBWAVELENGTH OPTICAL WAVEGUIDES AND THEIR USE AS COMPONENTS IN PHOTONIC CIRCUITS AND DEVICES

Title (de)  
NANODRÄHTE UND NANOBÄNDER ALS OPTISCHE SUBWELLENLÄNGENWELLENLEITER UND IHRE VERWENDUNG ALS KOMPONENTEN FÜR FOTONISCHE SCHALTUNGEN UND VORRICHTUNGEN

Title (fr)  
NANOFILS ET NANORUBANS FAISANT OFFICE DE GUIDES D'ONDES OPTIQUES DE SOUS-LONGUEUR D'ONDE ET LEUR UTILISATION EN TANT QUE COMPOSANTS DANS DES CIRCUITS ET DES DISPOSITIFS PHOTONIQUES

Publication  
**EP 1747488 A2 20070131 (EN)**

Application  
**EP 05761557 A 20050513**

Priority  
• US 2005017029 W 20050513  
• US 57141604 P 20040513  
• US 64361205 P 20050112

Abstract (en)  
[origin: WO2005114282A2] Nanoribbons and nanowires having diameters less than the wavelength of light are used in the formation and operation of optical circuits and devices. Such nanostructures function as subwavelength optical waveguides which form a fundamental building block for optical integration. The extraordinary length, flexibility and strength of these structures enable their manipulation on surfaces, including the precise positioning and optical linking of nanoribbon/wire waveguides and other nanoribbon/wire elements to form optical networks and devices. In addition, such structures provide for waveguiding in liquids, enabling them to further be used in other applications such as optical probes and sensors.

IPC 8 full level  
**G02B 6/12** (2006.01); **G02B 6/10** (2006.01); **H01S 5/04** (2006.01); **H01S 5/323** (2006.01); **H01S 5/34** (2006.01); **H01S 5/347** (2006.01); **H01S 5/10** (2006.01)

CPC (source: EP)  
**B82Y 20/00** (2013.01); **G02B 6/107** (2013.01); **H01S 5/041** (2013.01); **H01S 5/32341** (2013.01); **H01S 5/3401** (2013.01); **H01S 5/341** (2013.01); **H01S 5/347** (2013.01); **H01S 5/1042** (2013.01)

Citation (search report)  
See references of WO 2005114282A2

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**WO 2005114282 A2 20051201**; **WO 2005114282 A3 20060608**; CA 2565765 A1 20051201; EP 1747488 A2 20070131; JP 2007538274 A 20071227

DOCDB simple family (application)  
**US 2005017029 W 20050513**; CA 2565765 A 20050513; EP 05761557 A 20050513; JP 2007513453 A 20050513