

Title (en)
FIBER OPTIC INTERFACE FOR OPTICAL PROBES WITH ENHANCED PHOTONIC EFFICIENCY, LIGHT MANIPULATION, AND STRAY LIGHT REJECTION

Title (de)
FAEROPTISCHE SCHNITTSTELLE FÜR EINE OPTISCHE SONDE MIT ERHÖHTEM PHOTONISCHEM WIRKUNGSGRAD, LICHTMANIPULATION UND STREULICHTABWEISUNG

Title (fr)
INTERFACE A FIBRES OPTIQUES POUR SONDAS OPTIQUES AYANT UNE EFFICACITE PHOTONIQUE ET DES CAPACITES DE MANIPULATION DE LA LUMIERE ET DE REJET DE LA LUMIERE PARASITE AMELIOREES

Publication
EP 0975995 A4 20000202 (EN)

Application
EP 97933155 A 19970619

Priority
• US 9710786 W 19970619
• US 2005096 P 19960619

Abstract (en)
[origin: WO9748995A1] Fiber optic interfaces (120) that can readily reject the collection of stray light while efficiently collecting desired light that has interfaced with the subject media. These fiber optic interfaces (120) may be incorporated into optical probes (70) and probe tips (100) for enhanced photonic efficiency, light manipulation, and stray light rejection. These probes (70) are particularly well suited for use in instrumentation including spectral analysis and the light-scattering branches of spectroscopy. Specifically, the optical probes (70) exhibit benefits for spectral analyses including those referred to as Raman, fluorescence, Rayleigh, luminescence, and diffuse reflectance. A typical probe (70) includes a center emitter fiber (104) surrounded by collection fibers (106). These fibers (104, 106) are arranged into a bundle and positioned behind a window (108). The end faces of the emitter fiber (104) surrounded by collection fibers (106) are shaped to form an optical interface (120) with desired optical characteristics.

IPC 1-7
G02B 6/04; G01J 3/44; F21V 7/04; G02B 6/36

IPC 8 full level
F21V 8/00 (2006.01); **G02B 6/04** (2006.01); **G02B 6/24** (2006.01); **G02B 6/38** (2006.01)

CPC (source: EP)
G02B 6/0008 (2013.01); **G02B 6/04** (2013.01); **G02B 6/241** (2013.01); **G02B 6/3863** (2013.01)

Citation (search report)
• [DAX] US 4573761 A 19860304 - MCLACHLAN RICHARD D [US], et al
• [DA] US 5402508 A 19950328 - O'ROURKE PATRICK E [US], et al
• [A] US 4812003 A 19890314 - DAMBACH PHILIP J [US], et al
• [A] US 4707134 A 19871117 - MCLACHLAN RICHARD D [US], et al
• [A] EP 0237850 A1 19870923 - SCHOTT GLASWERKE [DE], et al
• See references of WO 9748995A1

Designated contracting state (EPC)
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
WO 9748995 A1 19971224; AU 3641797 A 19980107; CA 2258592 A1 19971224; EP 0975995 A1 20000202; EP 0975995 A4 20000202

DOCDB simple family (application)
US 9710786 W 19970619; AU 3641797 A 19970619; CA 2258592 A 19970619; EP 97933155 A 19970619