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 SONDES OPTIQUES AYANT UNE EFFICACITE PHOTONIQUE ET DES CAPACITES DE MANIPULATION DE LA LUMIERE ET DE REJET DE LA LUMIERE PARASITE AMELIOREES

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Application

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Priority

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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.

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