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TITLE

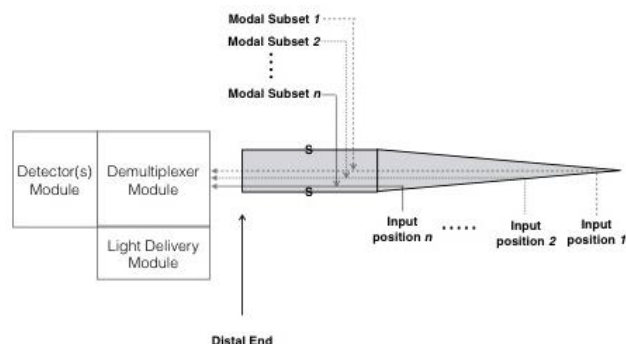
Method for axially resolved light collection from a tapered waveguide

INVENTORS

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DESCRIPTION

The invention proposes a fiber photometry method for the collection of fluorescent signals from regions at different depths of a tissue by means of a minimally invasive tapered optical fiber. The main steps of the method comprise: collecting light at different positions along and/or around the taper axis; generating a correspondence between the input points and the subsets of guided modes propagating towards the distal end of the fiber; discriminating the signals gathered by different sub-sections of the tapered region by means of an optical system coupled at the output facet of the waveguide; assigning a specific input point to the detected light radiation at the output facet based on the readout of light intensity.



APPLICATIONS

diagnosis of tumor tissues, neurobiology investigation in deep brain regions

KEYWORDS

fluorescence spectroscopy, fiber photometry, tapered optical fiber

BIBLIOGRAPHIC DATA

Sistema e metodo per raccolta di luce assialmente risolta attraverso una guida d'onda rastremata.

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