Title (en)

ILLUMINATION SOURCES FOR MULTICORE FIBER ENDOSCOPES

Title (de)

BELEUCHTUNGSQUELLEN FÜR MEHRKERNFASERENDOSKOPE

Title (fr)

SOURCES D'ÉCLAIREMENT D'ENDOSCOPES À FIBRES MULTICOERS

Publication

EP 3559723 A4 20200729 (EN)

Application

EP 17883995 A 20171221

Priority

- US 201615387805 A 20161222
- IL 2017051372 W 20171221

Abstract (en)

[origin: WO2018116302A1] Endoscopes, multicore endoscope fibers and configuration and operation methods are provided. The fibers may have hundreds or thousands of cores and possibly incorporate working channel(s) and additional fibers. The fiber may be used at different optical configurations to capture images of tissue and objects at the distal tip and to enhance a wide range of optical characteristics of the images such as resolution, field of view, depth of field, wavelength ranges etc. Near-field imaging as well as far-field imaging may be implemented in the endoscopes and the respective optical features may be utilized to optimize imaging. Optical elements may be used at the distal fiber tip, or the distal fiber tip may be lens-less. Diagnostics and optical treatment feedback loops may be implemented and illumination may be adapted to yield full color images, depth estimation, enhanced field of views and/or depths of field, and additional diagnostic data.

IPC 8 full level

G02B 23/24 (2006.01); **A61B 1/00** (2006.01); **A61B 1/06** (2006.01); **A61B 1/07** (2006.01); **A61B 1/12** (2006.01); **G02B 6/02** (2006.01); **G02B 23/26** (2006.01); **G02B 27/10** (2006.01); **G02B 27/48** (2006.01); A61N 5/06 (2006.01)

CPC (source: EP US)

A61B 1/00006 (2013.01 - EP); **A61B 1/00009** (2013.01 - EP US); **A61B 1/00167** (2013.01 - EP US); **A61B 1/00172** (2013.01 - EP); **A61B 1/00194** (2022.02 - EP US); **A61B 1/063** (2013.01 - EP); **A61B 1/0638** (2013.01 - EP); **A61B 1/0655** (2022.02 - EP US); **A61B 1/07** (2013.01 - EP); **G02B 6/02** (2013.01 - EP); **G02B 23/2423** (2013.01 - EP); **G02B 23/2469** (2013.01 - EP); **G02B 23/26** (2013.01 - EP); **G02B 27/48** (2013.01 - EP); A61B 1/00094 (2013.01 - EP); A61B 1/127 (2013.01 - EP); A61B 1/128 (2013.01 - EP); A61N 5/0601 (2013.01 - EP); A61N 2005/063 (2013.01 - EP)

Citation (search report)

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- [Y] ILOVITSH ASAF ET AL: "Time multiplexing super resolution using a 2D Barker-based array", PROGRESS IN BIOMEDICAL OPTICS AND IMAGING, SPIE - INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING, BELLINGHAM, WA, US, vol. 9716, 9 March 2016 (2016-03-09), pages 97160I - 97160I, XP060064543, ISSN: 1605-7422, ISBN: 978-1-5106-0027-0, DOI: 10.1117/12.2206198
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