Title (en)

DEVICE FOR TRANSPORTING AND CONTROLLING LIGHT PULSES FOR LENSLESS ENDO- MICROSCOPIC IMAGING

Title (de)

VORRICHTUNG ZUM TRANSPORT UND ZUR STEUERUNG DER LICHTIMPULSE ZUR LINSENLOSEN ENDOMIKROSKOPISCHEN BILDGEBUNG

Title (fr)

DISPOSITIF DE TRANSPORT ET DE CONTRÔLE D'IMPULSIONS LUMINEUSES POUR L'IMAGERIE ENDO-MICROSCOPIQUE SANS LENTILLE

Publication

EP 3234666 A1 20171025 (FR)

Application

EP 15821042 A 20151217

Priority

- FR 1462809 A 20141218
- EP 2015080312 W 20151217

Abstract (en)

[origin: WO2016097191A1] According to one aspect, the invention relates to a device for transporting and controlling light pulses for lensless endo-microscopic imaging and comprises: a bundle of N monomode optical fibres (Fi) arranged in a given pattern, each monomode optical fibre being characterized by a relative group delay value (Ax) defined relative to the trip time of a pulse propagating in a reference monomode optical fibre (F 0) of the bundle of fibres (40); an optical device (50) for controlling group speed, comprising a given number M of half-wave plates (P j) that are characterized by a given delay (8t j); a first spatial light modulator (51) suitable for forming from an incident light beam a number N of elementary light beams (B i) each of which is intended to enter into one of said optical fibres, each elementary beam being intended to pass into a given half-wave plate such that the sum of the delay introduced by said half-wave plate and the relative group delay of the optical fibre intended to receive said elementary light beam is minimal in absolute value; a second spatial light modulator (52) suitable for deviating each of the N elementary light beams such that each elementary light beam penetrates into the corresponding optical fibre perpendicularly to the entrance face of the optical fibre.

IPC 8 full level

G02B 6/04 (2006.01); **G02B 23/26** (2006.01)

CPC (source: EP US)

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Citation (search report)

See references of WO 2016097191A1

Designated contracting state (EPC)

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Designated extension state (EPC)

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DOCDB simple family (publication)

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DOCDB simple family (application)

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