Title (en)

FLUORESCENCE SCANNING MICROSCOPE AND METHOD FOR IMAGING A SAMPLE

Title (de)

FLUORESZENZ-RASTERMIKROSKOP UND VERFAHREN ZUR ABBILDUNG EINER PROBE

Title (fr)

MICROSCOPE À FLUORESCENCE ET PROCÉDÉ D'ILLUSTRATION D'UN ÉCHANTILLON

Publication

EP 3956710 A1 20220223 (DE)

Application

EP 20723022 A 20200417

Priority

- DE 102019110157 A 20190417
- EP 2020060836 W 20200417

Abstract (en)

[origin: WO2020212563A1] The invention relates to a fluorescence scanning microscope, comprising an excitation light source which is designed to generate an excitation light distribution that excites fluorophores present in the sample in order to spontaneously emit fluorescence photons; a de-excitation light source which is designed to generate a de-excitation light distribution that de-excites the fluorophores excited by the excitation light distribution in the sample in order to produce a stimulated emission of fluorescence photons; an illumination unit which is designed to combine the excitation light distribution and the de-excitation light distribution in order to form a light distribution that scans over multiple illumination targets of the sample such that the intensity maximum of the excitation light distribution and the intensity minimum of the de-excitation light distribution spatially overlap in the respective illumination target; a detector which is designed to detect the fluorescence photons emitted from each illumination target on the basis of the arrival time of the photons; and a processor. The processor is designed to analyze the fluorescence photons detected in each illumination target with respect to the arrival time of the photons, to generate a first pixel and a second pixel on the basis of said analysis, said pixels representing each illumination target, to combine the first pixels in order to form a first sample image and the second pixels in order to form a second sample image, and to determine a spatial offset between the intensity maximum of the excitation light distribution and the intensity minimum of the de-excitation light distribution using the two sample images.

IPC 8 full level

G02B 21/00 (2006.01); **G01N 21/64** (2006.01); **G02B 27/58** (2006.01)

CPC (source: EP US)

G01N 21/6408 (2013.01 - US); **G01N 21/6458** (2013.01 - US); **G02B 21/0064** (2013.01 - EP); **G02B 21/0076** (2013.01 - EP); **G02B 21/0084** (2013.01 - EP); **G02B 27/58** (2013.01 - EP); G01N 21/6408 (2013.01 - EP); G01N 21/6458 (2013.01 - EP)

Citation (search report)

See references of WO 2020212563A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2020212563 A1 20201022; CN 113711101 A 20211126; DE 102019110157 A1 20201022; DE 102019110157 B4 20210617; EP 3956710 A1 20220223; US 11650158 B2 20230516; US 2022196554 A1 20220623

DOCDB simple family (application)

EP 2020060836 W 20200417; CN 202080029511 A 20200417; DE 102019110157 A 20190417; EP 20723022 A 20200417; US 202017603594 A 20200417