

Title (en)
NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY USING LIGHT WITH ORBITAL ANGULAR MOMENTUM

Title (de)
KERNMAGNETISCHE RESONANZSPEKTROSKOPIE MITTELS LICHT MIT ORBITALEM DREHIMPULS

Title (fr)
ANALYSE D'ÉCHANTILLON À BASE DE MICRO-SPECTROSCOPIE RMN

Publication
EP 2235510 A1 20101006 (EN)

Application
EP 09702507 A 20090115

Priority
• IB 2009050145 W 20090115
• US 2208408 P 20080118

Abstract (en)
[origin: WO2009090610A1] The present invention relates to a device capable of producing a high resolution chemical analysis of a sample, such as fluid, based upon nuclear magnetic resonance (NMR) spectroscopy, where the nuclear magnetic polarizations of the sample are generated by sequentially illuminating the sample with a focused beam of light carrying angular orbital angular momentum (OAM) and possibly momentum (spin). Unlike in usual NMR used for (10) magnetic nuclear resonance imaging (MRI) or spectroscopy, the invention does not make use of a strong magnet.

IPC 8 full level
G01N 24/08 (2006.01); **G01R 33/28** (2006.01); **G01R 33/46** (2006.01)

CPC (source: EP)
G01N 24/08 (2013.01); **G01R 33/282** (2013.01); **G01R 33/46** (2013.01); **G01N 24/006** (2013.01); **G01R 33/285** (2013.01)

Citation (search report)
See references of WO 2009090610A1

Designated contracting state (EPC)
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 SE SI SK TR

Designated extension state (EPC)
AL BA RS

DOCDB simple family (publication)
WO 2009090610 A1 20090723; CN 101939638 A 20110105; CN 101939638 B 20131218; EP 2235510 A1 20101006; JP 2011510288 A 20110331; JP 5264933 B2 20130814

DOCDB simple family (application)
IB 2009050145 W 20090115; CN 200980102460 A 20090115; EP 09702507 A 20090115; JP 2010542719 A 20090115