

Title (en)

DEVICE AND PROCESS FOR MAGNETIC RESONANCE ELASTOGRAPHY (MRE)

Title (de)

VORRICHTUNG UND VERFAHREN FÜR DIE MAGNETRESONANZELASTOGRAPHIE (MRE)

Title (fr)

DISPOSITIF ET PROCÉDÉ D'ÉLASTOGRAPHIE PAR RÉSONANCE MAGNÉTIQUE (ERM)

Publication

EP 2007281 A1 20081231 (DE)

Application

EP 07724354 A 20070412

Priority

- EP 2007003417 W 20070412
- DE 102006018863 A 20060413
- EP 06090057 A 20060413
- DE 102006037160 A 20060801
- EP 07724354 A 20070412

Abstract (en)

[origin: WO2007118710A1] The invention relates to a device to produce mechanical oscillations in a research object using magnetic resonance elastography (MRE) with a membrane that can be set into periodic motion (312) and a transmission element (4, 400) for the transmission of periodic motion of the membrane (312) onto the research object (1), whereby the membrane (312) is connected to the transmission element (4, 400) by means of a mounting medium (311, 320, 321, 322) in such a way that periodic motion of the membrane is transmitted over the mounting medium (311, 320, 321, 322) to the transmission element(4, 400). A second aspect relates to the invention of a device with a step motor to generate periodic motion and a transmission element for the transmission of the periodic motion of the step motor to the research object in order to generate mechanical oscillation therein. The invention also relates to a procedure for the magnetic resonant elastographic determination of biomechanical characteristics of tissue with steps: c) excitation of mechanical oscillations using a frequency of $f < v$ in which n is the tissue to be researched; d) proof of mechanical oscillation within the tissue using magnetic resonance, whereby a periodic magnetic field with a repeat time of $T_R = 1/f < v$ is used on the tissue.

IPC 8 full level

A61B 5/055 (2006.01)

CPC (source: EP US)

A61B 5/0051 (2013.01 - EP US); **A61B 5/055** (2013.01 - EP US); **G01R 33/56358** (2013.01 - EP US); **A61B 5/4519** (2013.01 - EP US); **A61B 5/7289** (2013.01 - EP US)

Cited by

CN113671427A

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

DE 102006037160 A1 20071018; **DE 102006037160 B4 20091008**; EP 2007281 A1 20081231; US 2011006767 A1 20110113; US 8305076 B2 20121106; WO 2007118710 A1 20071025

DOCDB simple family (application)

DE 102006037160 A 20060801; EP 07724354 A 20070412; EP 2007003417 W 20070412; US 29713307 A 20070412