Application of ultrasound in clinical physiotherapy

The CSIC has developed a device to apply physiotherapeutic ultrasound. The device allows controlled and programmable focusing.

Industrial partners from the field of physiotherapy are being sought to collaborate through a patent licence agreement.

An offer for Patent Licensing

Ultrasonic Device

The invention relates to a device and method of applying ultrasound in physiotherapy with controlled and programmable focus, which uses a multiple piezoelectric transducer that works with intensities and frequencies in the range of clinical ultrasonic physiotherapy.

The present invention allows to improve the efficiency in the application of ultrasound in physiotherapeutic applications. The device allows the soundproofing to be precisely guided to a predetermined point. In addition, it allows automated control of transducer positioning and guidance of a focal point, after being manually placed in contact with the skin of a subject.

The device comprises: a multiple piezoelectric transducer, a positioning module, an actuation module, a processing module, a communication module, and a housing.

Main innovations and advantages

The device comprises a multiple piezoelectric transducer, which allows a plurality of emitters intended to emit ultrasound, so that it allows a punctual insonification or a programmable focus scan. The transducer preferably works with intensities and frequencies within the range of clinical ultrasonic physiotherapy.

The device of the invention is suitable for treatments of both the thermal type and those grouped under the concept of non-thermal ones due to the proposed frequency and power ranges, the fact that it uses a pulsed wave of programmable amplitude and number of cycles and, fundamentally, its ability to concentrate the acoustic intensity in any part of the volume under treatment while it is not shielded by reflective elements of the anatomy.

Patent status
Priority patent application filed suitable for international extension

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