

SCANNING APPARATUS FOR REFLECTION-MODE PHOTOACOUSTIC TOMOGRAPHY

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The greatest limitation on clinical use of existing photo-acoustic imaging technologies is the slow scanning speed caused by mechanical scanning, the bulky design of the scanning apparatus, and the necessity to immerse the body part into an ultrasonic coupling liquid. The present invention overcomes these limitations by dramatically decreasing the image formation time and the scanner size, and using ultrasonic gel coupling. As a result, the present invention makes possible clinical use of photoacoustic imaging very similar to the already widespread ultrasonic diagnostic imaging. Additionally, the system in the current invention can be flawlessly combined with ultrasonic imaging, providing simultaneous and co-registered information about optical and mechanical target properties.