

Title (en)  
MAGNETIC RESONANCE TOMOGRAPHY DEVICE HAVING A NOISE-SUPPRESSING FUNCTION BY DAMPING MECHANICAL VIBRATIONS

Title (de)  
MAGNET-RESONANZ-TOMOGRAPHIEGERÄT MIT LÄRMUNTERDRÜCKUNG DURCH DÄMPFUNG VON MECHANISCHEN SCHWINGUNGEN

Title (fr)  
APPAREIL DE TOMOGRAPHIE A RESONANCE MAGNETIQUE A MOYENS ANTI-BRUIT PAR AMORTISSEMENT DES VIBRATIONS MECANQUES

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Application  
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Abstract (en)  
[origin: WO03025609A1] It is possible to suppress noise by intensively damping mechanical vibrations in MRT devices, especially gradient coils and magnet vessels, using compound materials containing centres of negative stiffness. The invention generally relates to core spin tomography (otherwise known as magnetic resonance tomography or MRT) as used in medicine in order to examine patients. More specifically, the invention relates to a core spin tomography device, wherein the vibrations of the components of said device, which can in many aspects have a negative effect on the entire system, can be reduced or the noise transmission paths can be reduced. The inventive core spin tomography device has a basic field magnet (1) which is surrounded by a magnet envelope (12) which surrounds and defines an inner area (15), a gradient coil system (2) being disposed inside said inner area (15). Damping elements made of a material (14) having a negative stiffness are arranged on an inner side of the magnet envelope (12) defining the inner area (15) in order to absorb acoustic vibrations which are produced during switching of the gradient coil system (2).

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