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MRI and Spectroscopy Multi-part Body Coil

IP Status: Issued US Patent; **Application #:** 16/422,355

MRI Coil Transmits and Receives RF Signals

A multi-part body coil apparatus can transmit (Tx) and/or receive (Rx) radiofrequency (RF) signals suitable for magnetic resonance imaging (MRI) and/or magnetic-resonance spectroscopy (MRS). The coil is configured as either a circularly polarized transverse-electric-magnetic (TEM) coil or a birdcage coil, and is easily assembled, disassembled (e.g., for easier maintenance, testing, tuning and/or shipping) and reassembled. The apparatus consists of one or more body-coil portions, each having a frame with a concave inner face and a convex outer face, at least one RF coil element mounted to the frame, a tune-and-match circuit operatively coupled to the RF coil element, a shield with partially overlapped, staggered conductors on opposite faces of a dielectric substrate (wherein the shield is coupled to the convex outer face of the frame), a mechanism to align each body-coil portion to neighboring portions, and an interconnection circuit configured to transmit to and/or receive from the RF coil elements. Preamplifiers, Tx-Rx switches and power amplifiers may be built into each of the body-coil portions.

BENEFITS AND FEATURES:

- Multi-part body coil
- Transmits and/or receives RF signals
- Easily assembled, disassembled and reassembled for easier maintenance, testing, tuning and/or shipping
- Configured as a circularly polarized TEM coil or a birdcage coil

APPLICATIONS:

- MRI
- Magnetic resonance spectroscopy
- Transmitting and/or receiving RF signals

Phase of Development - Prototype development

Researchers

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Interested in Licensing?

The University relies on industry partners to scale up technologies to large enough production capacity for commercial purposes. The license is available for this technology and would be for the sale, manufacture or use of products claimed by the issued patents. Please contact us to share your business needs and technical interest in this MRI technology and if you are interested in licensing the technology for further research and development.

Technology ID
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