



SYSTEM AND METHOD FOR CONFIDENCE MAPS FOR QUANTITATIVE MAPPING WITH MAGNETIC RESONANCE IMAGING

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Overview

Proton density fat fraction (PDFF) and $R2^*$ estimated using quantitative chemical shift-encoded MRI (CSE-MRI) are well-established quantitative biomarkers of liver fat content. As such, CSE-MRI methods are FDA-approved to evaluate diseases such as non-alcoholic fatty liver disease and liver iron overload. More recently, $R2^*$ mapping with CSE-MRI been shown to be reproducible across vendors and calibrated to liver iron concentration (LIC, mgFe/g dry). Despite these efforts, reliable estimation of PDFF and $R2^*$ remains a challenge because of confounding factors, such as low signal-to-noise ratio (SNR), high iron content, inhomogeneous main magnetic field (B_0), and motion.

The Invention

UW-Madison researchers have developed systems and methods for generating confidence maps that identify regions in quantitative maps (such as, for example, PDFF and $R2^*$ maps) that are valid for subsequent analysis by clinicians and/or automated algorithms. As such, clinical care is substantially improved by providing clinicians with the information needed to be certain that quantitative maps can be trusted, either for clinician analysis or automated processing.

Additional Information

For More Information About the Inventors

- [Scott Reeder](#)

Tech Fields

- [Medical Imaging : MRI](#)

For current licensing status, please contact Jeanine Burmania at jeanine@warf.org or 608-960-9846