System And Method For Control Of Hyperpolarized Gas-Phase Contamination In Spectroscopic Magnetic Resonance Imaging

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The Invention

A system and method is provided to acquire images of a subject having received a tissue soluble hyperpolarized gas into the airways. The method includes performing a pulse sequence including (i) for each effective repetition time (TReff), acquiring at least one gas-phase dataset and at least one dissolved-phase dataset, wherein a gas-phase echo time (TEGas) of the at least one gas-phase dataset and a dissolved-phase echo time (TEDissolved) of the at least one dissolved-phase dataset are selected to isolate gas-phase contamination of the dissolved-phase dataset from dissolved-phase components in the dissolved-phase dataset. The method also includes (ii) estimating gas-phase contamination of the dissolved-phase dataset using the gas-phase dataset and a scaling factor (σ), (iii) producing a corrected dissolved-phase dataset by reducing the gas-phase contamination of the dissolved-phase dataset using the gas-phase contamination estimated in step (ii), and reconstructing an image from the corrected dissolved-phase dataset and the gas-phase dataset.

Additional Information

For More Information About the Inventors

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Tech Fields

- Medical Imaging : MRI

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