Magnetic Resonance Spectra (MRS) Processing Software for Accurate Analysis

Technology Summary

This software has been developed to provide the users an improved method of magnetic resonance spectra (MRS) processing that includes several noise reduction signal enhancement steps that provide higher sensitivity and specificity to increase the diagnostic power of the technique. Magnetic resonance imaging (MRI) has become a relatively common medical imaging technique that uses strong magnetic fields, radio waves, and computational analysis to create detailed images of tissues in the body. It is regularly used to diagnose cancer, vascular issues in the heart and brain, musculoskeletal and other soft-tissue damage. MRS can be generated using the information collected by an MRI instrument processed in a different way to create a graph or "spectrum" that measures the biochemical constituents within a selected volume of tissue. Whereas MRI creates an image, MRS can determine types and quantity, comparative ratios and in some cases absolute values, of chemicals in the tissue that can be used diagnostically. Another advantage of this technique is that it is non-invasive, so no sample or biopsy needs to be taken from the patient.

Potential Commercial Applications

- MRI Imaging
- Brain Imaging
- Neurology
- Research application

Competitive Advantages

- Improved processing of MRS can significantly enhance its diagnostic utility
- Use of several techniques in combination greatly increases available proton MRS information content

Development Stage: Proof-of-concept

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Publication(s): NA

Intellectual Property: NA

Product Area: Software, medical diagnostic, research tool

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