

# Estimating skeletal muscle metabolism from 31P MRSI at 7 Tesla using a dual-tuned volume coil preliminary in-vivo results

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Phosphorus Magnetic Resonance Spectroscopy (31P MRS) is a non-invasive imaging technique that estimates concentrations of high-energy phosphates, offering insights into cell metabolism and neuromuscular disorders. Its clinical adoption is hindered by the need for specialized coils, but using a volume coil dual-tuned to 1H and 31P for 3D Magnetic Resonance Spectroscopy Imaging (3D-MRSI) can overcome this difficulty. Our approach allows for fast acquisition with improved spectral resolution at Ultra-High Field (7T). This approach can potentially enhance 31P metabolic imaging in clinical settings.

## Field

Software and quantification

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