Docket #: S08-012

MRI - Optimized spectral spatial pulse design

A computer implemented method for designing a spectral-spatial pulse for exciting at least one passband and minimally exciting at least one stopband is provided. A uniform shaped spectral envelope is generated. For a plurality of k.sub.z.noteq.0, k.sub.z dependent weights for a spectral envelope that approximate a k.sub.z=0 envelope and provides the at least one passband and the at least one stopband for each of the plurality of k.sub.z.noteq.0 is generated.

Applications

- This invention describes an optimal spectral spatial design that significantly improves the pass-band and stop band over traditional designs. Using this invention it is possible to design short and effective fat-suppression pulses for 3T and 7T. In addition we show an effective application for hyper-polarized 13C where only a single metabolite is excited and other metabolites over a wide range of frequencies are completely suppressed.

Patents

- Published Application: 20100102812
- Issued: 8,035,381 (USA)

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