

Construction and Application of Small Portable Low Field MR Device

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Magnetic resonance (MR) measurements are typically made using expensive, unwieldy superconducting magnets at high magnetic fields. Although high magnetic fields ensure high signal to noise ratios, for some applications MR measurements may be made with a carefully-designed, small, portable sensor at low field. This affordable, flexible alternative arrangement includes a home-constructed radio frequency coil. At an operating frequency of 2.26MHz, there can be many challenges associated with both the construction, and with acquiring signal with a sufficient signal to noise ratio. In this presentation, I will discuss the applications of such an MR device and how one may go about achieving an appreciable level of signal at low field.