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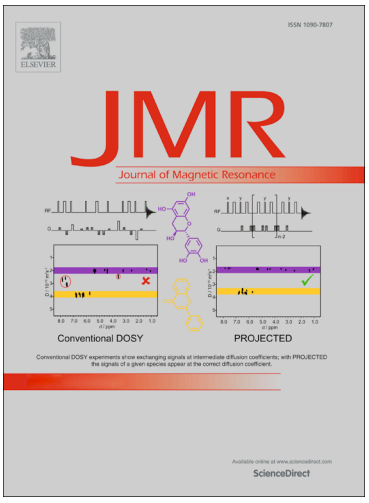

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A Resistive Q-switch for Low-field NMR Systems

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Abstract

A NMR Q-switch was designed and constructed specifically for use with low-field NMR apparatus. This featured a comparatively simple resistive damping design. It served to reduce the r.f. probe ring-down time, and hence reduced the signal acquisition delay from 25 ms to 9 ms, on an Earth's magnetic field NMR system. The advantage of this earlier acquisition was demonstrated for both an aqueous suspension of iron oxide particles and using an NMR flow meter.

Keywords: Q-switch; Ring-down; Damping; Low-field NMR; Earth's field NMR; Flow meter.

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