

Abstract Submitted  
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**NMR circuits for the undergraduate lab** DECLAN MULHALL, Univ of Scranton — Building an in-house NMR setup for the advanced lab is a rich experience for an undergraduate, and the resulting apparatus will be a valuable addition to the advanced lab offerings. There are many decent schematics and articles dedicated to the construction of marginal oscillator circuits and Q-meter circuits to detect CW NMR signals. However these often specify obsolete components. The circuits themselves can be daunting to build for the novice. There are pitfalls not apparent from the schematics, like self resonance of capacitors etc. This work describes a number of NMR detectors constructed in house. The replacement of obsolete components, and different methods of construction are described. An attempt to convert some of the circuits to frequency scanning circuits using varactors will be presented.

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