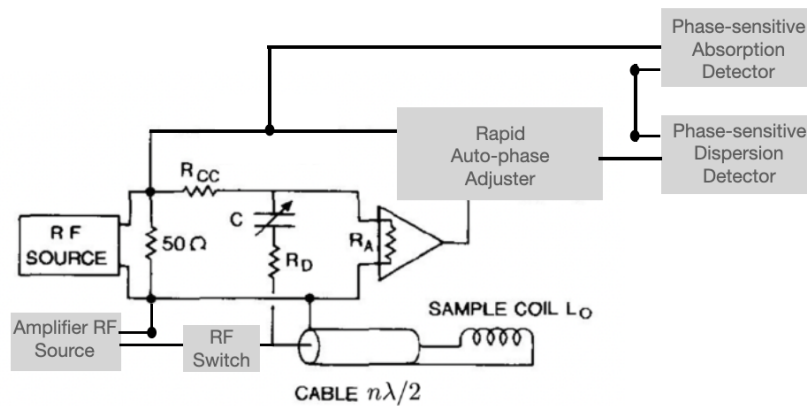


# Fast Phase Scanning NMR



With this design, the reference signal is supplied to the mixer while being modulated rapidly (~MHz) using a programmable auto-phase adjuster, from a dedicated phase shifter. The reference is then broken into the real and imaginary parts of the signal and passed to the analyzer which uses fast signal integration to produce 1000 phase-shifted measurements and a CW dispersion measurement simultaneously. This information is then sent to the RF controls to make the polarization measurements and adjust the RF modulation across the frequency domain to continuously tune and optimize the signal.

UVA has prototyped this type of system and is presently studying the required design parameters and determining how best to fully integrate this new system into modered DAQ and monitoring electronics. We are also looking into how to attract funds to build this system.