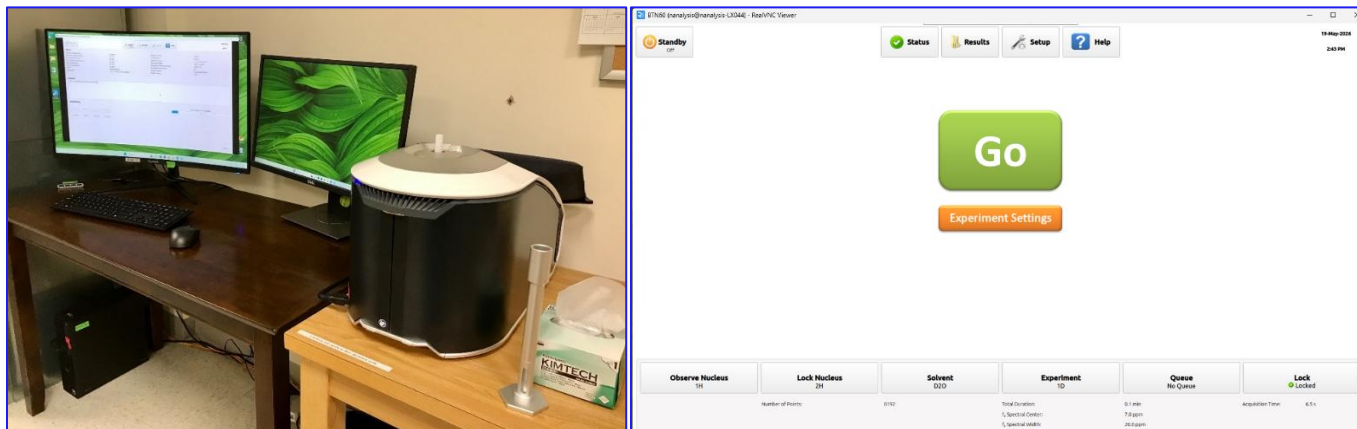


SCS Newsletter Article – New 60-MHz NMR Spectrometer D. L. Olson; 26 May 2026

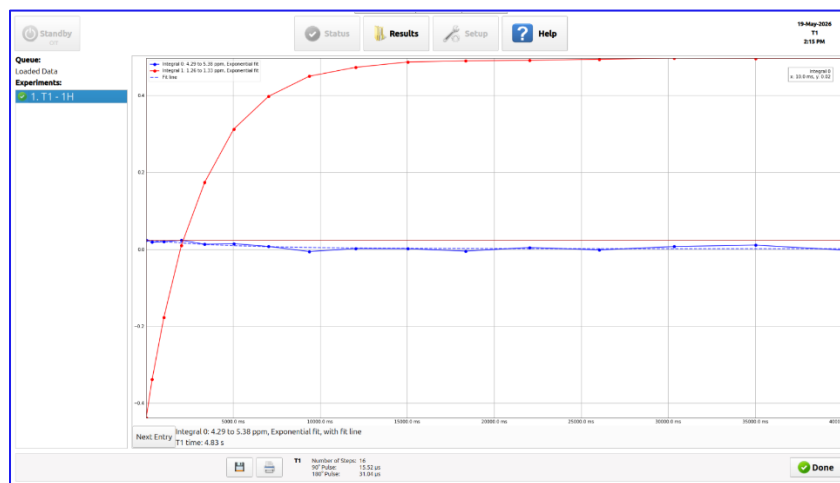
The NMR Lab has a new benchtop NMR spectrometer described online [here](#). At 60 MHz (1.4 Tesla), it can perform both NMR and relaxometry. Obtained to mostly measure T1 and T2 values, the equipment has been accessorized to further provide sample temperature control from +5 to +45 °C, a feature not commercially available.



The spectrometer is run via a connected PC. Monitors, keyboard, and mouse replace a touchpad.

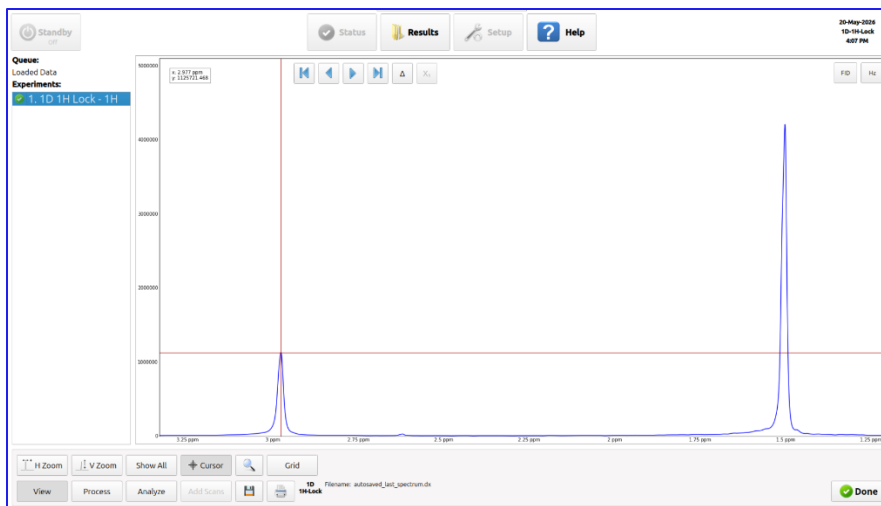
Made by Nanalysis (Calgary, Alberta, Canada), the electromagnet is not superconducting, and therefore uses no cryogens. The magnet is always on (provides field stability and standby shimming), and operates on a powerpack similar to one a laptop might have.

After the user inputs appropriate data acquisition conditions, T1 or T2 are measured automatically using either ^1H or ^{19}F as a nucleus.



An example of T1 output; here, T1 = 4.83 s. The x-axis ranges from 0 to 40 s.

Acquisition of an NMR spectrum proceeds in a straightforward manner. Locking is typically on deuterium, but proton lock is also available for sample temperature determination using the common standards of neat methanol (as CH_3OH) or ethylene glycol (as $\text{HOCH}_2\text{CH}_2\text{OH}$).



Neat ethylene glycol is used to measure sample temperatures; proton is used as the lock nucleus.

Users begin by completing an [authorization form](#), and are trained separately from other NMR instruction.

An extensive [operational document](#) is available describing NMR and T1 measurements, and temperature control.

Reservations are made via ChemFOM in the usual way.