PHYS 360/460
Experiment 20 – NMR Spectroscopy
Additional Notes

Saving Data

- Acquire a single, non-updating scan to be clear about the waveform being saved ("Single" Button)
- If signal-to-noise ratio (SNR) is too low, use signal averaging $\left(\text{SNR} \propto \sqrt{\#\text{ of scans}}\right)$
- Set file quality to reduced (still 3000 – 5000 data points) to make the saved file size reasonable (~100 kB)
- When setting DC and TC before saving data, make sure:
  - the signal of interest is in view, while making it as large as possible
  - for multi-pulse experiments (IR, SE) both the signal of interest and the indicator for the first pulse (normally at the trigger point) are on screen to allow for accurate measurement of τ
  - include part of the baseline for later processing
- Make notes on the experimental setup (experiment type, sample type, rough idea of τ) for each file name, as these are numbered sequentially by default

Data Pre-processing

- The files will require baseline subtraction before they can be fit
- It is sometimes beneficial to perform filtering as well