

Lec 4 – 23 Sept 2014

Review HW#2

shimming – solvent effects, patience (but get past noise!)

checking shims – TMS symmetric and ²⁹Si satellites

apodization – $lb=1/aq$ (for ¹H; for ¹³C will worry more about s/n)

integrations – remember to baseline correct

phase cycling – quad artifacts (about the center)

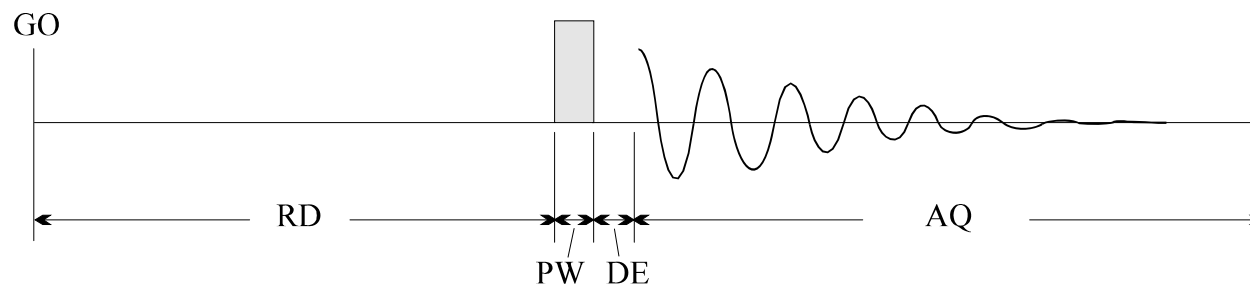
Questions HW#3

patience with **atma & topshim (exit TopSpin, 5s, reopen cures displays issues)**

acceptable shims? < 0.3 Hz 300/400; < 1 Hz 500s (0.5 Hz most organic compounds)

obtainable linewidths depend on shims, then $1/AQ$

The One-Pulse NMR Experiment



1. **RD [D1] \equiv relaxation delay, regrow M_z** [Clar 2.4.1]
2. **PW \equiv rf pulse of length PW μ s nutate M into xy plane** [Clar 2.2.2]
3. **DE \equiv probe deadtime delay (μ s) \rightarrow wait for rf pulse to ringdown**
4. **AQ \equiv acquisition of TD points at DW dwell [= 1/(2SW)]** [Clar 3.2.3]
 - a) rotating frame \rightarrow demodulation
 - b) Nyquist
 - c) phase behavior
 - d) resolution and apodization
5. **repeat DS + NS times**