II. ^1H pw90 Calibration

[updated: 29 June 2010]

1. Acquire a normal ^1H 1d spectrum, as described in Section I (sbs_1H1d).
2. Check the value of **pw90** brought in from the **SETUP** macro/button with: **pw90?↵**
3. Until you are confident about this calibration, start with a coarse array as:

   array↵
   parameter to be arrayed: **pw↵**
   enter number of steps in array: **30↵**
   enter starting value: **3↵**
   enter array increment: **3↵**

   – the steps above can be entered in a single command: **array('pw',30,3,3)↵**
4. Make the following changes: **nt=1 ss=0 vp=80 at=2 fn=32k d1=1 ↵**
4. **go↵ dsa↵** will start the acquisition and update the display after each fid is acquired (on the UNITY, wait a few sec after **go↵** before issuing the **dsa↵**).
   – if the magnetization is not fairly close to sinusoidal (is slow to invert), **d1** needs to be increased (i.e., the ^1H T_1 relaxation is slow).
5. Determine the 360° crossover position:
   – **da↵** and **dg↵** display the array and main parameter group, respectively.
   – **wft dssh dssl↵** will retransform, display spectra stacked horizontally, and label the spectra, respectively.
   – **ff↵** (≡ **f full**) will expand one spectrum to show the full spectrum using the full screen (respectively).
   – **wft(3) ds(3) df(3)** will transform, display spectrum and display fid of the 3rd "FID" (array element), respectively.
   – **pw[3]?** will display the 3rd element of the pw array.
   – **pl('all')↵** and **pl(1,100,10)↵** will plot the full array, or the 1st, 11th, 21st, … to 91st spectrum using current stack plot parameters (do a **dssa** or **dssh** 1st)
6. Perform a fine array about the 360° position:
   – as an example, suppose the 360° crossover observed in section 4 is ~47, then

     array('pw',20,44,0.5)↵ gives a good fine array.
   – again, use **go↵ dsa↵** to acquire and display the data.
7. Determine the best crossover position, then supposing it gives 48.5:

   pw90 = 48.5/4 pw=pw90 go↵
   – the last **go** checks that **gain** is not set too high.