

TE MEASUREMENT PROCEDURE

Assumptions:

NMR System is tuned
Magnet is at full field, persistent mode, leads are ramped down
Nose is full, run valve in manual mode

Prepare Fridge:

Stop RB3, RB2, and RB1 (wait 2 minutes between each), if necessary
Put Run Valve, EV91120, in Manual Mode
Establish a STEADY Nose level somewhere between 65% and 90%
Only make slight changes to Run Valve for rest of TE (+/- 0.05 each 10 min)

Take a Baseline:

Hit "Unlock Magnet Controls" button
Type the full-field current in the box labeled "Setpoint" (eg: 77.085)
Type 0.50 into "Setrate" box, if necessary
Hit "To Setpoint" Button
Wait for leads to reach full current (approx 1 min)
Hit "Hold"
Check that leads current and magnet current are equal
Hit "Heater On" button
Wait for the 30 second timeout to expire
Type the baseline current into the "Setpoint" box (eg: 74.600)
Hit "To Setpoint" to start the magnet sweeping
Wait for magnet to reach baseline current (approx 6 min)
Hit "Hold" button
Put NMR into pause mode if necessary
Hit the Baseline button
Select "Create New Baseline", dialog box should then disappear
Change sweeps to 5000 if necessary
Double check that all NMR settings are where you want them
Hit "One Point" button to take a single nmr measurement
Wait for timer to count down
Hit Baseline button
Select the baseline you just took from the list of timestamps
Document the details of the baseline in the logbook:
Date Time, #Sweeps, MagCurrent, Top/Bottom, Gain, RFFreq, RFMod
Type full-field current into "Setpoint" box (eg: 77.085)
Type 0.50 into "Setrate" box, if necessary
Hit "To Setpoint" button
Wait for magnet to reach full current (approx 6 min)
Hit "Hold" button
Hit "Heater Off" button
Wait for 30 second timeout to expire
Hit "To Zero" to ramp the leads down
Hit "Lock Magnet Controls" button

Take TE measurements:

Make sure ladder is in desired target position
Make sure NMR is on desired channel (AND in agreement with target position!)
Set sweeps to 5000, if necessary
Hit "Take Data" button
Wait for timer to count down
Write the following in the logbook for the next 10 measurements:
Time, NMR Area, 4He Press, 4He Temp, 3He Press, 3He Temp, Nose Level

After 10 measurements, Take a new baseline
If desired, continue by taking more data.

A calibration constant may be calculated using the script at:
http://spin.phys.virginia.edu/tools/te_calc.php
Select printer friendly format and put copy in logbook