



Department of Chemistry NMR Facilities

Tecmag-AC250 NMR User Guide

Initiating Program

- 1) **login** to your group account.
- 2) **double click** on the NTNMR icon.
- 3) **listen** for the beep while the program is starting.

Inserting a sample (on AC console)

- 1) **click** on <Auto Lock> to turn lock off.
- 2) **click** on <2nd> then on <Lift>.
- 3) remove standard from holder and replace with sample.
- 4) place the sample on the bed of air. **DO NOT DROP IT!**
- 5) **click** on <Lift> to insert the sample.

Locking the sample (on AC console)

- 1) **check** the **lock parameters** that are listed on the console by clicking the appropriate button and adjust them if needed.
- 2) if necessary for your sample, **click** on <spin> to begin spinning the sample.
- 3) **click** on <Field> and adjust the value for your solvent.

- 4) **look** for the **lock signal** and place it on the far left hand side.
- 5) **click** on **<Auto Lock>**.
- 6) **adjust** the lock gain in order to have the lock level close to the top of the screen.

Shimming a sample (on NTNMR)

- 1) **click** the **Console Toolbar** icon.
- 2) **select** z1 and z2.
- 3) **click** on **Start**.
- 4) when the shim is completed, the **Start** button will go back to black.
- 5) **close** the window by clicking on the **Console Toolbar** icon again.

Setting up a ¹H experiment (on NTNMR)

- 1) **select** the **File** menu and then **Open**.
- 2) **select** the folder **Standard exp**.
- 3) **open** the file **H1.tnt**.
- 4) **select** the menu **Scripts ->Acq Scripts -> Bruker AG**.
- 5) **click** on **Start** on the Bruker AG window.
- 6) **click** on **Close** when the routine is done.
- 7) **click** on **Dashboard Frame** icon.
- 8) **adjust** the acquisition parameters as needed.
- 9) **click** on **ZG**.
- 10) when completed, select the menu **File – Save As**. **Do not click the SAVE icon!!**.

Processing a ^1H experiment (on NTNMR)

- 1) **click** on **shift** + **NDFT** icon.
- 2) **set** the processing parameters as necessary.
- 3) **click** on the **NDFT** button.
- 4) **type CTRL + H** to autophase.
- 5) to zoom on a region, **click and drag** across the region and then **click** on the highlighted area.
- 6) to increase the spectrum height, **roll** the mouse wheel up and down.
- 7) to set the reference, **click** on the peak then **right click** and select **parameters -> set reference**. **Type** in the reference value and **click** on **Apply**.

Setting up a ^{13}C experiment (on NTNMR)

- 1) **click** on **File** and then **Open**.
- 2) **select** the folder **Standard exp**.
- 3) **select** the file **C13.tnt**.
- 4) **click** on **Dashboard Frame** icon.
- 5) **adjust** the acquisition parameters as needed.
- 6) **click** on **ZG**.
- 7) when complete, click **File – Save As**. **Do not click the SAVE icon!!**

LEAVING THE INSTRUMENT FOR THE NEXT USER

- 1) Turn off the **Auto Lock** and **Spin**.
- 2) **Eject** sample and return standard.
- 3) **DO NOT SPIN!**
- 4) Set **Field**, click on **Auto Lock** and adjust the **Lock Parameters**.
- 5) Click **Standby**.
- 6) **close** the TecMeg window.
- 7) **Log Off**.
- 8) **sign** the log book.

DATA TRANSFER

This computer is not connected to the network. There are 2 ways to move files.

1. Email them to you from the **DATA** folder on the desktop.
2. Transfer the files to a flash drive from the **DATA** folder.