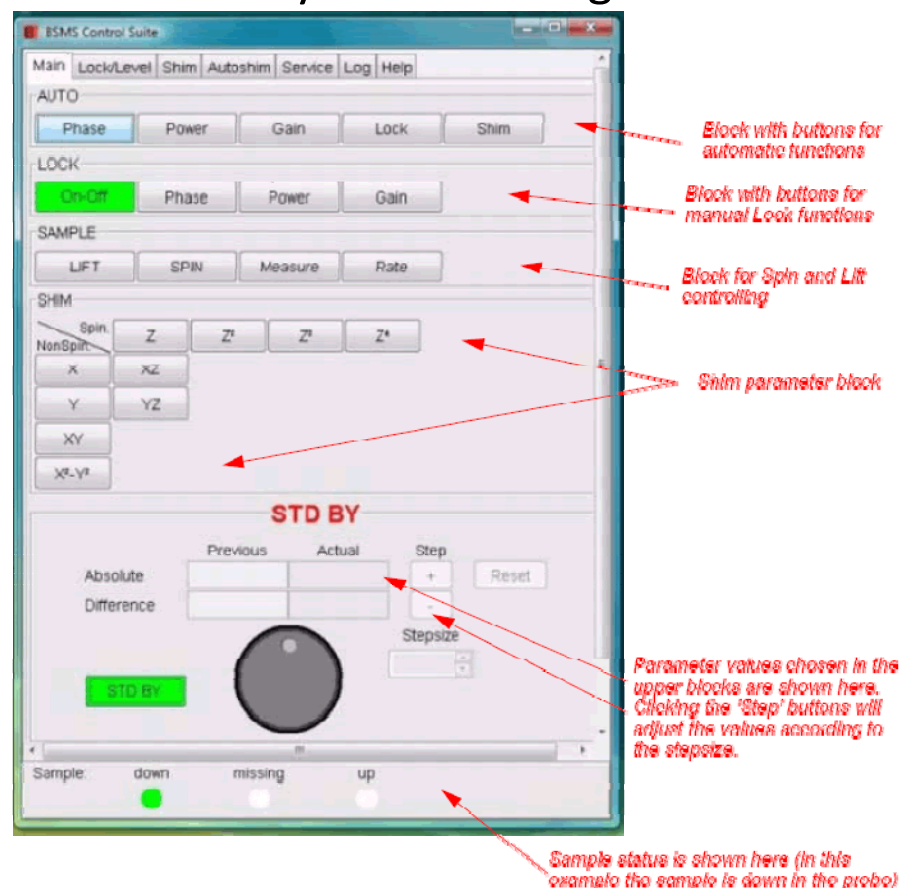


# Locking Issues



# Unable to Lock

- Sometimes you may run into issues locking onto your sample. First thing to ask yourself are:
  - Am I using a deuterated solvent?
  - Did I select the correct solvent when locking?
  - Is the sample properly centered in the coil (depth gauge)?
- If you answered yes to the above questions then try the following:
  - Open the bsms window and see if your sample is properly “down” in the probe. When it drops you should hear a click when it falls in.
  - Turn the lock off by typing “**lock off**” then turn it back on by typing “**lock**”
  - Reload the default shim file by typing “**rsh default**”
  - Lock on the solvent
  - If it still does not lock, try using the command “**ii**” to reset communications between console and computer. When complete, try locking on the solvent again.



# Still Having Issues...

## Determine the lock phase: Is it in phase or 180° out of phase?

1. Open the bsms panel with the bsmsdisp command
  - If the lock button is highlighted green as in the example, your sample is locked
  - If the lock button is highlighted red, your sample did not lock
  - If the lock button is highlighted blue, lock is off
2. If red, click the lock button so that it turns blue
3. Open the lock display by double clicking on the lock window at the bottom right hand corner of the topspin window or typing lockdisp
4. Does the lock look like the image to the bottom right, where the first peak of the red and green traces is positive or up?
  - If the lock signal looks like the one to the right, your lock is said to be in phase.
    - Try clicking on the lock button again; you may need to adjust the lock gain and/or power if the signal is small to successfully lock.
    - If it is noisy, type rsh and click on the most recent set of shims created.
  - If the lock is 180° out of phase, that is the first peak of the red and green traces is down, someone has tried tuning it to  $^2\text{H}$ . This is easily remedied by opening a  $^{13}\text{C}$  experiment and tuning the probe.
5. If the lock button on the bsms panel is highlighted blue, after trying to lock or the lock signal is flat line, then the electronics need to be reset or re-initialized.
  - To confirm this open the console cabinet door, look at the bottom rack, on the right hand side for the L-TX 300 board (second from the right). Is there a red light lit?

Yes, find Phil Mortimer, Ananya Majumdar, or Chris Falzone to reset things.

