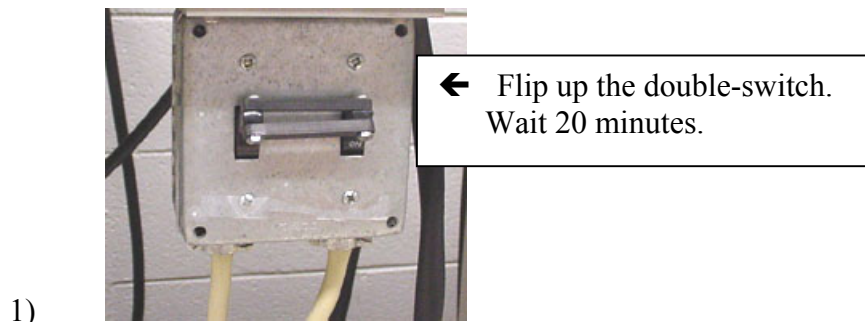# Aviv Circular Dichroism Spectrometer
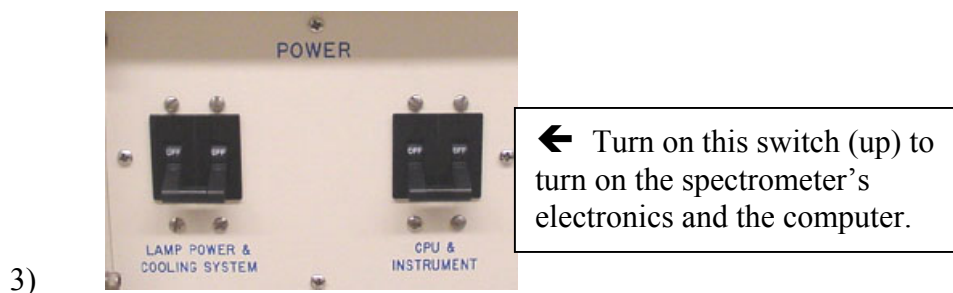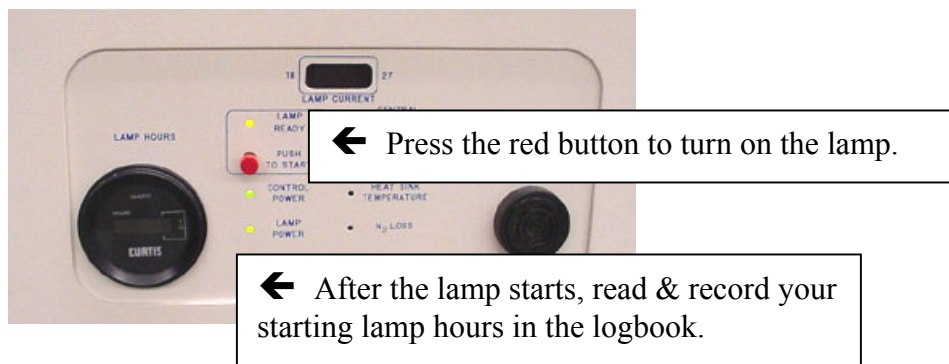# User's Booklet

To startup the CD spectrometer, do the following steps:

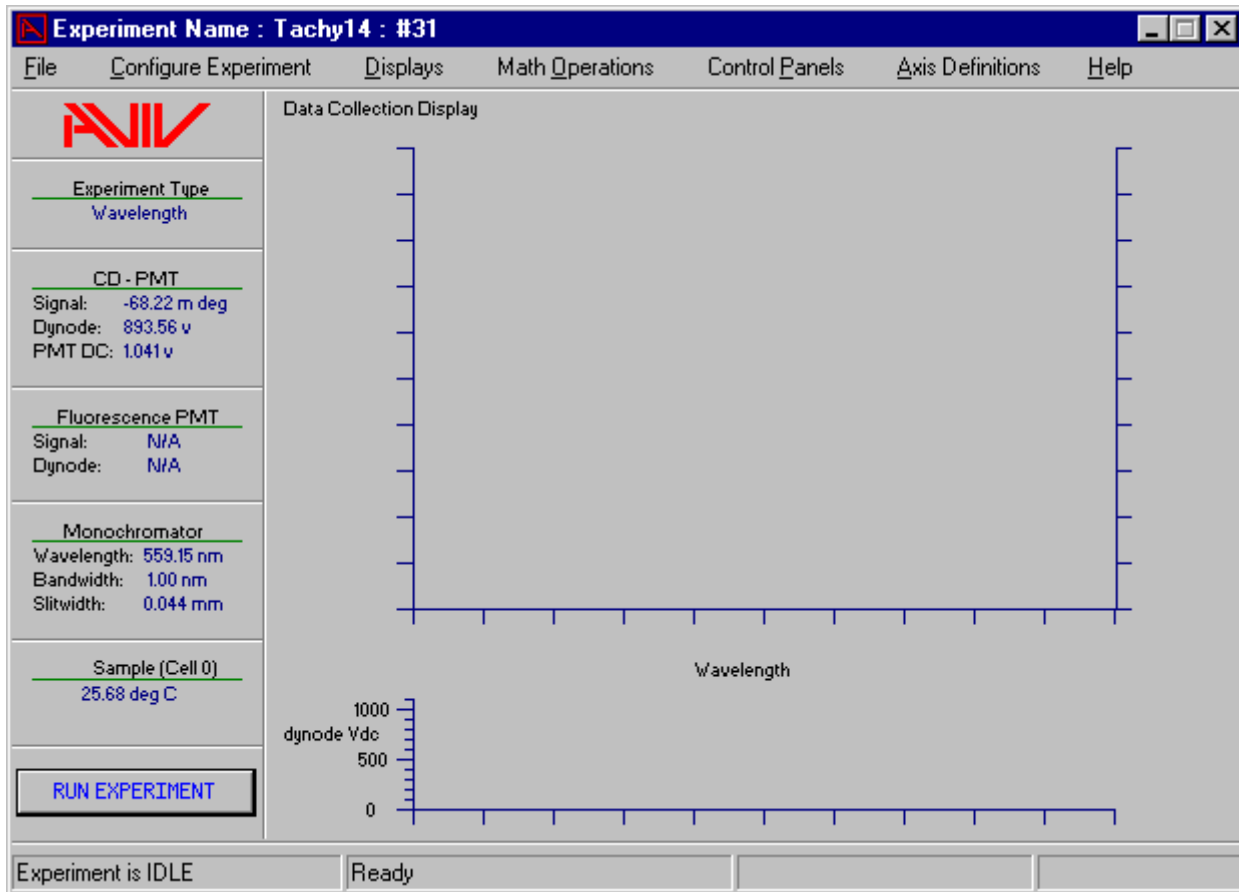⬅ Flip up the double-switch. Wait 20 minutes.

1)

2)   After 20 minutes, you will hear a click, and the lamp power supply lights will come on. When the "lamp ready" light is on, you can turn on the lamp.

⬅ Press the red button to turn on the lamp.

⬅ After the lamp starts, read & record your starting lamp hours in the logbook.

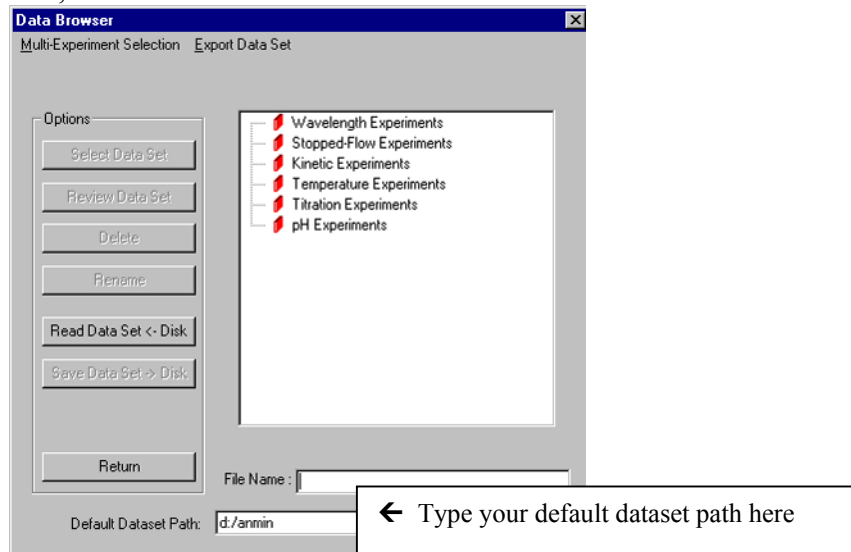⬅ Turn on this switch (up) to turn on the spectrometer's electronics and the computer.

3)

4)   After the computer starts up, log into Windows NT with your username & password.

5)   After Windows NT starts up, log into Aviv with your username & password. After the software launches, the instrument will initialize, and you will see this page:

Experiment Name : Tachy14 : #31

File   Configure Experiment   Displays   Math Operations   Control Panels   Axis Definitions   Help

Data Collection Display

Experiment Type
Wavelength

CD - PMT
Signal: -68.22 m deg
Dynode: 893.56 v
PMT DC: 1.041 v

Fluorescence PMT
Signal: N/A
Dynode: N/A

Monochromator
Wavelength: 559.15 nm
Bandwidth: 1.00 nm
Slitwidth: 0.044 mm

Sample (Cell 0)
25.68 deg C

RUN EXPERIMENT

Wavelength

1000
dynode Vdc
500

0

Experiment is IDLE   Ready

How to set up for data acquisition

1)   Click on the "Displays" menu, and then click on "Data Browser". You will see the following page:

Data Browser

Multi-Experiment Selection   Export Data Set

Options

Select Data Set

Review Data Set

Delete

Rename

Read Data Set <- Disk

Save Data Set -> Disk

Return

Wavelength Experiments
Stopped-Flow Experiments
Kinetic Experiments
Temperature Experiments
Titration Experiments
pH Experiments

File Name :

Default Dataset Path: d:/anmin   ← Type your default dataset path here

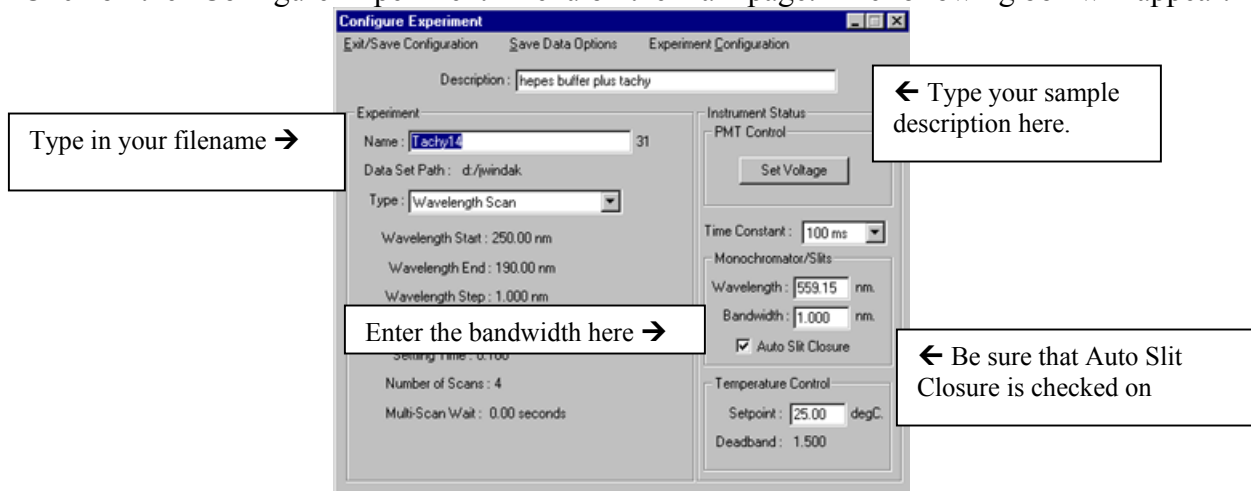Near the bottom, you can reset the Default Dataset Path, by typing in d:/ and the name of your folder. Then press the Enter key.

Please Note:
You must press the Enter key after changing any parameter, or else the software will ignore the change.

Then you can close the Data Browser.

2)   Click on the "Configure Experiment" menu on the main page. The following box will appear:

Type in your filename →

← Type your sample description here.

Enter the bandwidth here →
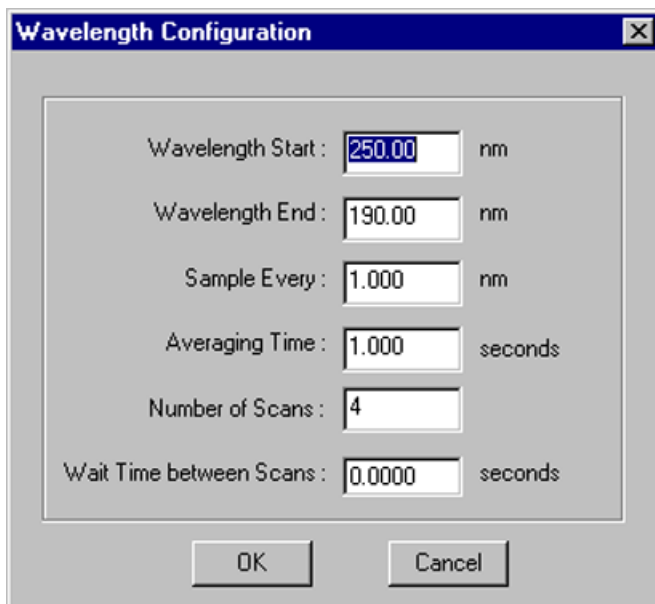
← Be sure that Auto Slit Closure is checked on

Enter a Filename, and a sample Description.
Set the bandwidth, usually to 1.000 or 1.500 nm.
Please be sure that "Auto Slit Closure" is checked on.
Then click on the "Experiment Configuration" menu, and click on Wavelength Configuration. The following box will appear, that will allow you to enter parameters such as your wavelength range, and the number of scans.
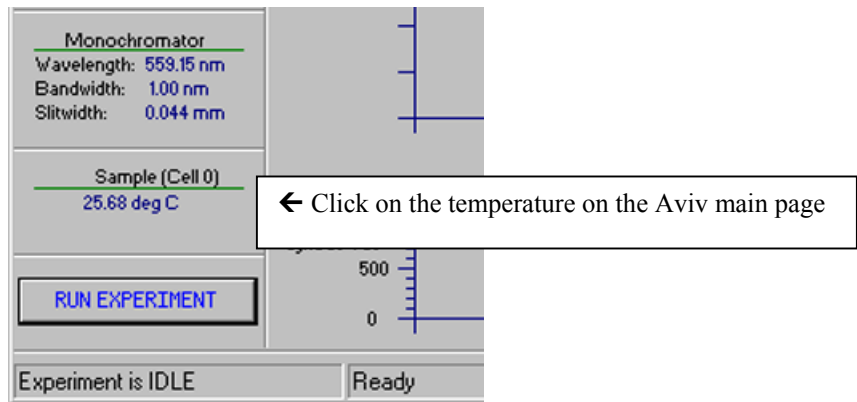

Please Note: You must press the Enter key after changing any parameters, otherwise the software will ignore the change.
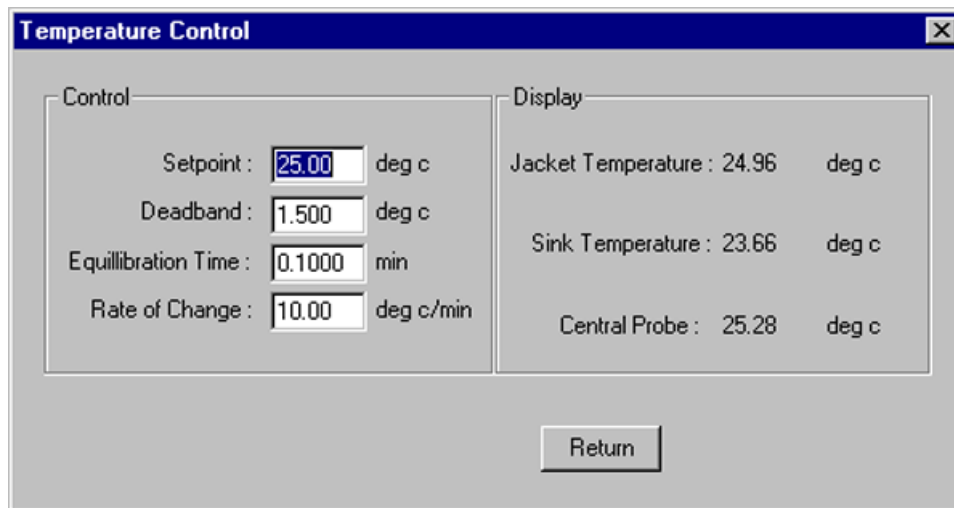
Click on OK to close this box.

Click on the "Exit / Save Configuration" menu to save changes and exit.

On the Aviv main page, click on the sample temperature, and the Temperature dialog box will appear.
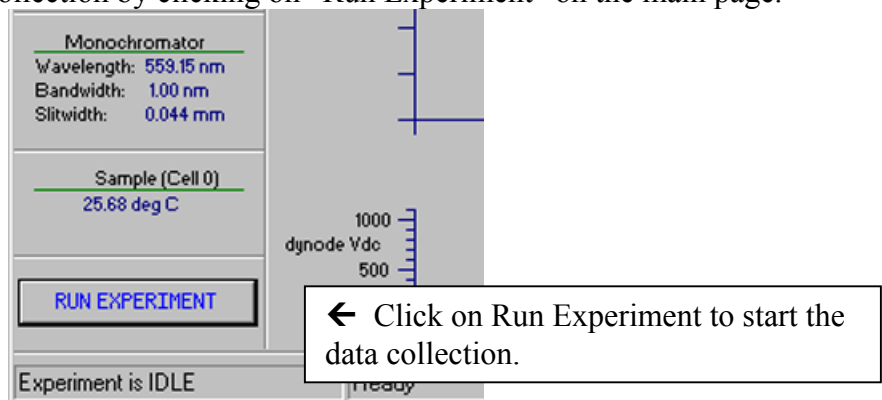
← Click on the temperature on the Aviv main page

The following box appears, that allows you to set your temperature parameters:

Please Note: The allowed temperature range is –10 °C to 110 °C.
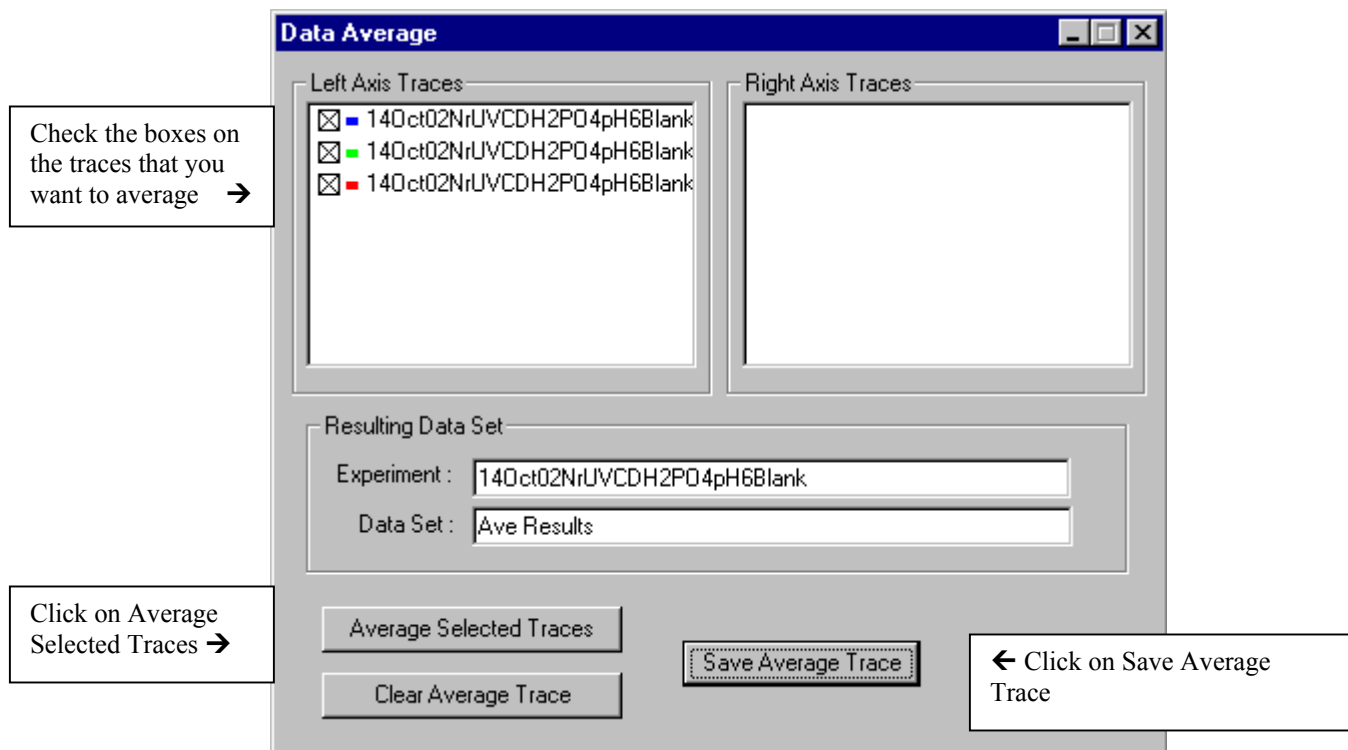
After you have inserted your sample into the sample compartment, and have allowed its temperature to equilibrate, you can start the data collection by clicking on "Run Experiment" on the main page.

← Click on Run Experiment to start the data collection.

When the data collection is finished, the software will prompt you to save the data. Be sure to save the data both to the data browser and to the computer's hard drive.

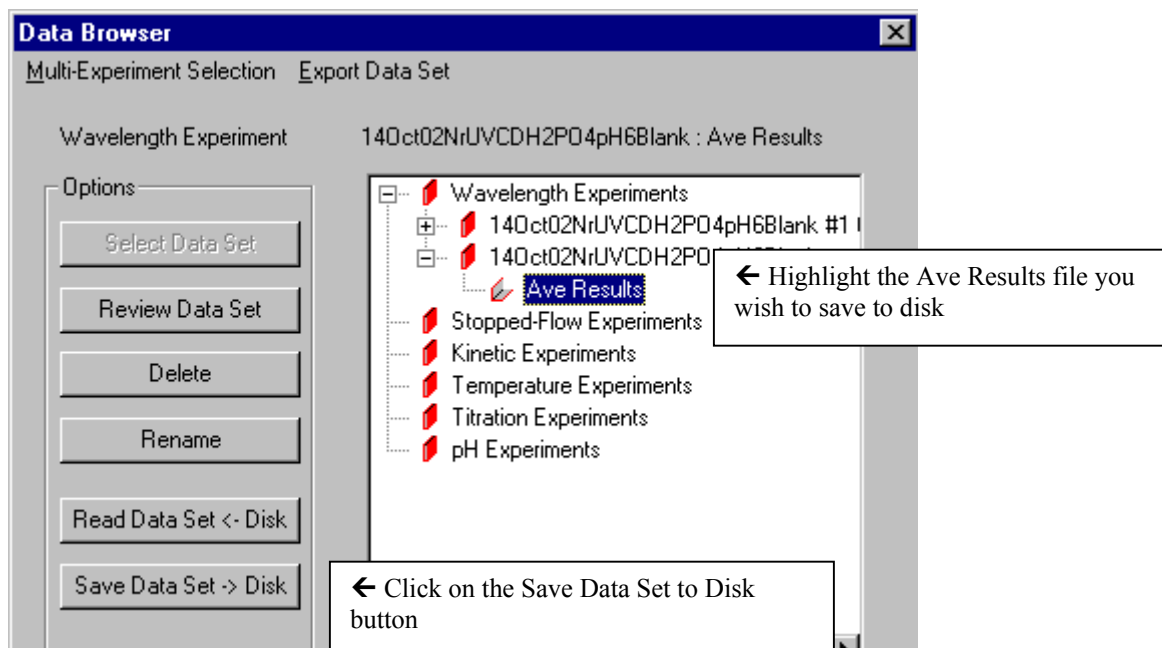How to combine multiple scans into one averaged spectrum:
On the main page, click on the "Axis Definitions" menu, and click on "Data Average". The following page will appear:

Data Average

Left Axis Traces
- ☒ ■ 14Oct02NrUVCDH2PO4pH6Blank
- ☒ ■ 14Oct02NrUVCDH2PO4pH6Blank
- ☒ ■ 14Oct02NrUVCDH2PO4pH6Blank

Right Axis Traces

Check the boxes on the traces that you want to average ➔

Resulting Data Set

Experiment : 14Oct02NrUVCDH2PO4pH6Blank

Data Set : Ave Results

Click on Average Selected Traces ➔

Average Selected Traces

Clear Average Trace

Save Average Trace

← Click on Save Average Trace

Check on the scans that you want to average, and then click on "Average Selected Traces".
After it averages the traces, you must then click on "Save Average Trace" to save it into the data browser.
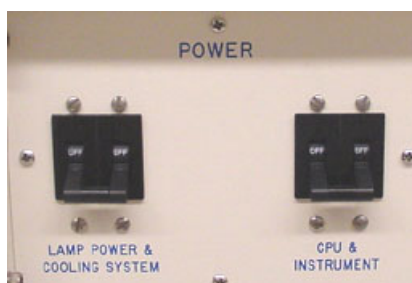
Please Note: This does not automatically save the average trace to the hard drive. You must go to the Data Browser to do this.

On the main page, click on the "Displays" menu, and then click on "Data Browser". When the data browser comes up, expand the experiment containing the average results, highlight the "Ave Results" file, and click on the "Save Data Set to Disk" button.

Data Browser

Multi-Experiment Selection   Export Data Set

Wavelength Experiment   14Oct02NrUVCDH2PO4pH6Blank : Ave Results

Options

Select Data Set

Review Data Set

Delete

Rename

Read Data Set <- Disk

Save Data Set -> Disk

- Wavelength Experiments
  - 14Oct02NrUVCDH2PO4pH6Blank #1
  - 14Oct02NrUVCDH2PO...
    - Ave Results
- Stopped-Flow Experiments
- Kinetic Experiments
- Temperature Experiments
- Titration Experiments
- pH Experiments

← Highlight the Ave Results file you wish to save to disk

← Click on the Save Data Set to Disk button

To shut down the spectrometer, do the following steps:

1) Exit from the Aviv software. You will be prompted to save any data that has not been saved to disk.

2) Shut down the computer (Start Menu Button, Shut Down). Wait until Windows tells you that it is safe to turn off the computer.

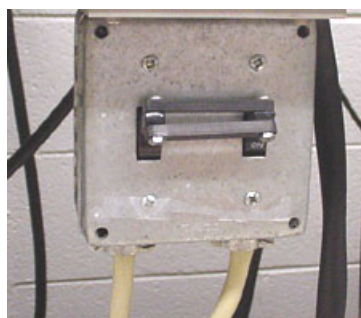3) Turn off this switch to turn off the computer and the spectrometer electronics.

← Press this switch down to turn off the computer and spectrometer electronics.

4) Record your ending lamp hours in the logbook.

Read your ending lamp hours on the meter, and record the number in the logbook. →

5) Turn off the double-switch.

← Press this switch down.