

## Tutorial session 1 examples

### 1. Initial set up

1. The tutorial assumes ADAS is set up for operation from your terminal and that your personal `/home/<uid>/adas/` directory and sub-directories `pass/` and `defaults/` have been initialised
2. The `pass/` directory is used for data sets created by ADAS, which you choose finally how to dispose of. The `defaults/` directory remembers all the settings you selected on your last run of every ADAS code. Since ADAS codes may have changed, if you have already used ADAS, your `defaults/` directory files may be out of date. This will cause codes to crash, so it may be best to delete all the files in the `defaults/` directory and start afresh.
3. Move to the central adas file space [`cd /home/adas`]. Look at the directories at this level [`ls`]. You will see the directory `doc/`. Move into it and look again [`cd docs; ls`]. You should see the various sub-directories including `bulletin/` and `manual/`. Move into the bulletins and look again [`cd bulletin; ls`]. You will see all the bulletins including the one `sep25_09.pdf`.
4. Bring up a acrobat viewer for `.pdf` files [`acroread &`] to look at the `sep25_09.pdf` bulletin. 'Bug fix' releases and the associated bulletin comes out annually or occasionally more frequently. New code releases are separate and occur when ready.
5. Return to the Terminal window, move into the `docs/` subdirectory `manual/` and list the files. `appxa` files describe the ADAS data and the others describe the ADAS codes. Use the acrobat reader to look at `chap5-03.pdf` and at `appxa-15.pdf`.
6. Move to the directory `/work/projects/adas/`. Notice the `fortran/` and `idl/` subdirectories. Move into `fortran/` and list and then down into `adas5xx/` look again. Finally move down into `adas501/` for a final look. You are now at the FORTRAN codes themselves. Note that on your own site the source fortran may not be accessible to the ordinary user.
7. Now move to the directory `/work/projects/adas/adas/` and list. This is the database itself. Look down into ADAS data format `adf04`. Actual datasets rather than directories have the terminator `.dat`.
8. Move back to your own `pass/` directory [`cd ~/adas/pass/`]. Start up ADAS [`adas`]. The main ADAS menu pops up.
9. Note that it is best to start ADAS from your sub-directory `../<uid>/adas/pass`. Graph and text hardcopy files created by ADAS will appear in the directory from which you launch ADAS.

### 2. Starting interactive ADAS and using its general GUI widgets

1. Move to your sub-directory `../<uid>/adas/pass`. Graph and text hardcopy will consequently appear here. Start ADAS [type `adas`] and go to the ADAS5 series sub-menu. Click with the mouse on the first button in `adas5` series for ADAS501. The Input window for ADAS501 pops up.
2. Click on *Central Data*, the data root to data class ADF13 should appear dimmed in the window above. Click on the directory name `sxb93#cr` in the datafile list window. `sxb93#cr` appears above in the selection window. Click on `sxb93#cr_llu#cr0.dat`. It appears in the selection window.
3. Click the *Browse comments* button. Information of what is in the file `sxb93#cr_llu#cr0.dat` is displayed. Click *Done* to restore the Input window. Click *Done* and the ADAS501 Processing window appears.
4. Click on the *Fit polynomial* button, then type [`5 {return}`] in the adjacent active editable box. Click on the first transition at 4270.7Å in the transition list window. It appears in the selection window above.
5. Click on the *Default Temperatures Values* button. If a warning pop-up appears, click *Confirm* on it. A set of density values appears in a pop-up window. Click on 1.000E+13. The temperature and density output values appear in the table.
6. Click on the *Done* button to proceed to the Output options window.
7. Click on the button for *Graphical Output*.
8. Select *Post-Script* out put by clicking on it in the Select Device list window. Click on the button for *Enable Hard Copy*. Enter a File Name such as `graph.ps`. Remember to press `{return}`. A warning widget appears if `graph.ps` already exists. If so click on *Replace*.
9. Click on the button for *Text Output*. Type in `paper.txt` - this is the standard text output File Name. [On many Output windows, there is a *Default File Name* button. You can click on it to enter `paper.txt` as the standard text output File Name.] Then click *Done*.

10. The graph appears in the next window. Click on *Print* to send a copy of the graph to the *graph.ps* file. Click *Done* to return to the Output Options window. Click on the *Exit to Menu* icon at the bottom left corner to restore the ADAS5 series menu. Finally click on the *Exit* button on the sub-menu and main menu windows to exit ADAS.
11. [*ls*] to see the files. You may wish to list *paper.txt* to see its format.

### 3. Using the Table Editor widget

1. Repeat steps 1-3 above. Click on *Edit Table* on the processing screen. Table Editor pops up.
  2. The values in italic font are your input data. Click in any of these boxes to edit the number within it. The workstation cut, paste and copy keys operate. Press the *return* key on the keyboard to record any change. This is the normal editing mode.
  3. The set of round and square buttons below the table are designed to help in some editing tasks. You must be careful to remember the sequence of operations since it is different from that on personal computers. **Activate** the appropriate button, **position** the mouse text cursor or drag over required digits, **press** the *return* key on the keyboard to complete the sequence.
  4. The *Default* round button is the reset to normal editing mode. The *Delete* button allows deletion of the value in a box, leaving an empty box; the *Remove* button allows deletion of a value with the column then being pushed up; the *Insert* button creates a new empty box, pushing the column down. These buttons stay active until you click *Default*.
  5. The *Copy* and *Paste* round buttons operate for the next immediate action only.
  6. Square buttons have a continuing effect until an alternative is pressed. The *Row\_skip* button causes a jump to the next editable box in a row when the *return* key on the keyboard is pressed; *Column\_skip* causes jumping to next box in a column. *Scroll up* moves the whole window down. Note that the window only shows ten values in a column, but the whole table may be longer than this.
  7. Preferred Temperature units for working with may be chosen. Changing units causes the Inputs from the file to change to the new units. It **does not** change any Output values already typed in. It merely interprets Output values in the selected units.
  8. Press the *Done* button to record the changes and return to the screen from which Table Editor was initiated. The *Cancel* button prevents the new values being substituted on return.
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9. You may be interested to try some of the more advanced widgets used by ADAS501. On the processing screen click Value selection by Display. A description of how to use this is in the user manual *introduction.pdf*.
  10. On the graphical display, you may like to try the *Retain* and *Adjust* buttons. Again details of use are in the user manual *introduction.pdf*.