

**For Reduction and Analysis using IRAF (at CfA) first set up IRAF (in the following computer prompts end with “:”, comments are in boldface and what user types is in italics):**

*: setiraf*

*: mkiraf*

Initialize uparm? (y|n): y

-- initializing uparm

Terminal types: xgterm,xterm,gterm,vt640,vt100,etc.

Enter terminal type: *xterm*

A new LOGIN.CL file has been created in the current directory.

You may wish to review and edit this file to change the defaults.

**To use IRAF type command "cl" at prompt and you will get a header with the IRAF version number and the first set of packages and a prompt within IRAF (IRAF prompts end with >).**

*: cl*

*NOAO/IRAFNET PC-IRAF Revision 2.14.1 Mon Sep 15 10:12:05 MST 2008*

*This is the RELEASED version of IRAF V2.14 supporting PC systems.*

*Welcome to IRAF. To list the available commands, type ? or ??. To get detailed information about a command, type `help <command>'. To run a command or load a package, type its name. Type `bye' to exit a package, or `logout' to get out of the CL. Type `news' to find out what is new in the version of the system you are using.*

*Visit <http://iraf.net> if you have questions or to report problems.*

*The following commands or packages are currently defined:*

*cirred. fitsutil. language. obsolete. softtools. xray.*

*color. gemini. lists. phist. stsdas.*

*ctio. gmisc. mscred. plot. system.*

*dataio. images. nmisc. proto. tables.*

*dbms. keck. noao. rvsao. utilities.*

*ec1>*

Typing the name of the package at the prompt will give you a list of the subpackages within that package. If you type in a subpackage name to run it you will be prompted for input of parameters. You can also read the parameter using "lpar" and edit its contents in advance using "epar". for example, the imutil subpackage within the images package will enable you to read the headers of your fits files.

```
ecl> images
```

```
imcoords. imfit.   immatch.  tv.
imfilter. imgeom.  imutil.
```

```
images> imutil
```

```
chpixtype  imdelete    imheader    imslice     listpixels
hedit      imdivide    imhistogram imstack     minmax
hselect    imexpr      imjoin      imstatistics nhedit
imarith    imfunction  imrename    imsum       sections
imcopy     imgets      imreplace   imtile
```

```
imutil> lpar imhead
```

```
images = "q"          image names
(imlist = "*.imh,*.fits,*.pl,*.qp,*.hhh") default image names
(longheader = no)    print header in multi-line format
(userfields = yes)  print the user fields (instrument parameters)
(mode = "ql")
```

```
imutil> epar imhead
```

I R A F

Image Reduction and Analysis Facility

PACKAGE = imutil

TASK = imheader

images = q image names

(imlist = \*.imh,\*.fits,\*.pl,\*.qp,\*.hhh) default image names

(longhea= no) print header in multi-line format

(userfie= yes) print the user fields (instrument parameters)

(mode = ql)

**to change values type in new value and hit return to exit out of the parameter file  
with saved parameters type "cntrl D"**

Image Reduction and Analysis Facility

PACKAGE = imutil

TASK = imheader

images = *FORS1.2003-01-07T06:18:33.085.fits* image names

(imlist = \*.imh,\*.fits,\*.pl,\*.qp,\*.hhh) default image names

(longhea= no) print header in multi-line format

(userfie= yes) print the user fields (instrument parameters)

(mode = ql)

**\*\* (imhead reads headers and gives information on data type) \*\***

**\*\* (hselect lets you select specific fields to list) \*\***

ut> *hselect FORS1.2003-01-07T11:39:15.900.fits*

fields to be extracted (IMAGETYP,HIERARCH ESO OBS NAME,UT,EXPTIME,MJD-OBS,DATE-OBSE):

boolean expression governing selection (YES):