

2.2.1 Working with FITS Image Extensions

The FITS image kernel included in IRAF version 2.11 is designed to read and write the images in FITS extensions and their associated headers. Once IRAF has ingested a FITS image and its header, it treats the header-data pair like any other IRAF image. The following discussion describes how to specify the image extensions in FITS files that you would like to process with IRAF/STSDAS tasks and presumes that you are using IRAF 2.11 or higher. It covers how to:

- List a FITS file's extensions.
- Access data in particular FITS extensions.
- Inherit keywords from the primary header.
- Append new extensions to existing FITS files.



Retaining the `.fits` at the end of every FITS file name in your file specifications will ensure that IRAF both reads and writes these images in FITS format.



If you want to work with STIS and NICMOS data, you will need to upgrade to IRAF 2.11 or higher and STSDAS 2.0.

Generating a FITS File Listing

Once you have downloaded STIS or NICMOS FITS files from the Archive, you may want an inventory of their contents. To generate a listing of a FITS file's extensions, you can use the **catfits** task in the **tables** package. The following example illustrates the first thirteen lines generated by **catfits** from a NICMOS MULTIACCUM FITS file containing images only.

Figure 2.2: NICMOS MULTIACCUM Listing from catfits

```
tt> catfits n3t501c2r_raw.fits
```

EXT#	FITSNAME	FILENAME	EXTVE	DIMENS	BITPI	OBJECT
0	n3t501c2r_raw	n3t501c2r_raw.fits			16	n3t501c2r_raw.f
1	IMAGE	SCI	1	256x256	16	n3t501c2r_raw.f
2	IMAGE	ERR	1		-32	
3	IMAGE	DQ	1		16	
4	IMAGE	SAMP	1		16	
5	IMAGE	TIME	1		-32	
6	IMAGE	SCI	2	256x256	16	
7	IMAGE	ERR	2		-32	
8	IMAGE	DQ	2		16	
9	IMAGE	SAMP	2		16	
10	IMAGE	TIME	2		-32	
11	IMAGE	SCI	3	256x256	16	
12	IMAGE	ERR	3		-32	