Preparation of F2 Sequences and data analysis
Please use the templates and libraries in the OT for the latest...
To know what happens to F2 look at the ISD
Correlated Double Sampling is how Near-IR arrays are typically read.

Images MEF has:
[0] has the generic info.
[1] has the data:
CDS = First_read - Second_read
or
MDS = Sum of First_Reads – Sum Second_Reads
F2 OT includes three types of preset readouts:

- **Bright Object CDS**
- **Medium Object CMS=4**
- **Faint Object CMS=8**
This is how an F2 image of the sky looks like

PA = 0 degrees

- - >ndisplay 23 sub-

FOV has 6 arcmin diameter
Please remember that the longslits have two special properties.

- They are all horizontal.
- They are not centered on the optical axis or the detector. They are asymmetric (90” N and 150” S).

Most Acquisitions will put the science object in the center of the field of view. It will not be at the center of the slit.
There are Two Types of Long Slit Acquisitions

- [1] Acquisition (H < 12 w/o sky sub)
  - Flamingos2
  - Sequence
- [2] Acquisition (H > 12 w/ sky sub)
  - Flamingos2
  - Sequence
Sky subtraction is a **must** in near-IR.
This is an example of a telluric
Don’t forget the calibrations ...

- **Imaging**: We will try to take photometric standards whenever possible.
- **Imaging**: Flats to be taken once a month by SOS.
- **Long Slit**: Night Baseline GCAL will include flats and Arcs. No need for day baseline.
- **Long Slit**: **All must have a telluric.** It can be shared within a program if individual targets < 30 minutes.
- **ALL**: darks will be taken once a week. 10 needed per exp time and readout mode for science and flats only (not for Acq and arcs).
Gemini provides software for Imaging data reduction

- Setup pyraf:
  - `f2`
  - `nsheaders`
- Check and organize:
  - `gemlist`
- Prepare data:
  - `f2prepare`
F2 data reduction package

- Examples script for:
  - Imaging
  - Longslit
  - MOS

- If you follow the steps and parameters set you will obtain reduced data.

- File a helpdesk or email in case of questions and/or problems
Imaging Data Procedure

F2prepare
Nireduce (fl_dark+)
Nisky

F2prepare
Nireduce (fl_sky+ fl_dark+)
Imcoadd (align=header)
Spectroscopic Data Procedure

- Gemcombine @fdarks.lis
- Nsreduce @flats.lis
- Nsflat f@flat.lis
- Nsreduce @arc.lis
- Nswavelength arc.fits
Spectroscopic Data Procedure

Nsreduce f@obj.lis
Nscombine
Nsfitcoords
Nstransform
nsextract
Final Comments

• We want you to come to Gemini :"Bring One, Get One” Student Observer Support Program

• We want your instruments. New modes to bring PI instruments to Gemini (check webpages)