

How To Make an IRS Dark Calibration File Using CUPID

All the input **_raw.fits* files that the user wants combined into the output dark should be placed in a single directory of arbitrary name *inputdir/*. These files should have common instrument channels and integration times.

Then, execute the CUPID command

```
cupid PIPE/BCD.DARK inputdir STOP.DARKBASE
```

The above command executes two steps:

First, the BCD pipeline is run on each of the **_raw.fits* files, up to the module DARKBASE. The output products are called **_drk.fits* (and associated uncertainties **_drku.fits* and masks **_dmask.fits*). They are written to the subdirectory *bcd/* under *inputdir/*.

Second, the **_drk.fits* files are median combined into one output dark called *dark_flux.fits*. It is written to the subdirectory *pbcd/* under *inputdir/*. The user can see a list of the input files **_drk.fits* in the text file *filelist_flux.txt*. Similarly, the lists of associated input uncertainties and masks are in *filelist_unc.txt* and *filelist_dmask.txt*. This step of the pipeline can be executed by itself with the command

```
cupid PIPE/DARK inputdir
```

which always takes as input the files *bcd/*_drk.fits* under *inputdir/*. If the user wants to modify the list of input files to combine, he/she may do so by either removing files *_drk.fits* from the *bcd/* subdirectory, or copying them from another location to that subdirectory. Then the above command can be executed again.

This pipeline also produces the output uncertainty *dark_unc.fits* and mask *dark_cmask.fits*. It is not recommended to use the output uncertainty of CUPID as input in subsequent BCD pipelines. The default input dark uncertainty in BCD pipelines has pixels of value zero.