2023 CHARA Imaging Workshop

Georgia State University, Mar 16-17, 2023, Aderhold Learning Center Room 202

The CHARA Remote Data Reduction Machine

For the Imaging Workshop, we recommend you use the CHARA Remote Data Reduction Machine. Access instructions can be found here: https://www.chara.gsu.edu/observers/data-reduction-software

The CHARA Remote Data Reduction Machine hosts a variety of reduction and analysis tools you can use on your data. You can also use it to access all publicly available data on our data archive.

Useful shortcuts on the Data Reduction Machine

Once on the CHARA Remote Data Reduction Machine, here are some important terminal commands for the workshop:

- source workshop – This will activate the virtual environment we are using for the workshop, which gives access to multiple useful commands and enables various python packages. **The following items assume you have the workshop virtual environment activated.**
- conda deactivate – Deactivates the virtual environment.
- All JMMC software can be accessed by running their name (case sensitive):
    - Aspro2
    - SearchCal
    - OIFitsExplorer
    - LITpro
    - OImaging
- mircx_idl – Runs IDL with a startup file that points to the necessary software for running the MIRC-X IDL data reduction software.
- binarygs_idl – Runs IDL with a startup file that points to the necessary software for running Binary Grid Search.
- cp_pmoired_tutorial – This will copy the PMOIRED tutorial files to your current location.
    - Note: If you are connected via SSH, you will need to enter the command “export XAUTHORITY=$HOME/.Xauthority” before opening the jupyter notebook to run the PMOIRED tutorials.
- GUIcandid – Runs the user interface for the CANDID software.

Downloading the software to your own machine

If you wish to use your own machine, here's where you can find the software we will be using:

- JMMC Software:
  - https://jmmc.fr/english/tools/proposal-preparation/
    - Aspro2 & SearchCal
  - https://jmmc.fr/english/tools/data-analysis/
    - OIFitsExplorer, LITpro, & OImaging
- MIRC-X pipeline:
  - https://gitlab.chara.gsu.edu/lebouquj/mircx_pipeline
- PMOIRED:
  - https://github.com/amerand/PMOIRED
- CANDID:
  - https://github.com/amerand/CANDID
- Binary Grid Search:
  - https://www.chara.gsu.edu/analysis-software/binary-grid-search
- SQUEEZE:
  - https://github.com/fabienbaron/squeeze
- OITOOLs.jl:
  - https://github.com/fabienbaron/OITOOLS.jl