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## Installation of GDL

The software package GNU Data Language (GDL) can be downloaded at the project's homepage (link), then follow the instructions for Win / Mac / Linux to install. In common Linux distibutions (Ubuntu, Debian, ...) one can use the package management, too:

```
sudo apt-get install gnudatalanguage
```

For the use in the Laboratory Courses the IDL Astro Library is also required. It can be downloaded at:

http://idlastro.gsfc.nasa.gov/homepage.html

In the next step the following directories

```
/home/user/opt/gdl-astrolib/astron/
```

should be created. Here and in the following, user should be replaced by the name of the corresponding user account. Afterwards the archive (astron) can be unpacked there. Furthermore, it is necessary to change the following lines of the file readfits.pro in the directory pro:

Additionally create a file *fitsconvert.pro* with the following content:

```
function fitsconvert,image
if n_elements(image) eq 0 then begin
  print,'Usage: converted_image=fitsconvert,original_image'
  return,0
endif
erg=(long(image)+65536) mod 65536
return,erg
end
```

in the directory /home/betreuer/opt/gdl-astrolib/. For the astrophysical lab course (especially for C7 and N2) the following routines are additionally required and should be also placed in this directory: correl\_images.pro, newremove.pro, newsrcor.pro, la\_cosmic.pro, mxaddpar.pro, and datatype.pro (all can be found in the SVN). To use the AstroLib, create an additional start-up script that exports the paths of the libraries. This script can e.g. be saved as hidden file in the home directory (e.g. \$HOME/.gdl\_startup). If the directory astron and the file fitsconvert.pro are placed in /home/user/opt/gdl-astrolib, the start-up script would look like:

```
!PATH=!PATH + ':/usr/bin/'
!PATH=!PATH + ':/home/user/opt/gdl-astrolib/astron/pro'
!PATH=!PATH + ':/home/user/opt/gdl-astrolib'
loadct,0, ncolor=255;
!P.BACKGROUND=255;
!P.COLOR=0;
!X.STYLE=1;
```

```
!Y.STYLE=1;
!Z.STYLE=1
print, '';
print, '***********************************
print, '** Personal settings are loaded and active **';
print, '***********************************
print, '';
```

The first line contains the link to the executable gdl file. The second/third line contains the path to the .pro files in the astron directory and the file fitsconvert.pro (adjust paths as needed).

If the start-up script is in the directory /home/user/, prepare it for the usage in the Bash-Shell by adding the following line

```
export GDL STARTUP=/home/user/.gdl startup
```

to the .bashrc script in the home directory.

For the laboratory computer a12 the installation should take place under the bet reuer account, while the last step needs to be executed for the betreuer as well as for the praktikum account. Important to note is that for the praktikum account user needs to be replace with betreuer instead of praktikum in this last step.

https://polaris.astro.physik.uni-potsdam.de/wiki/ - OST Wiki

https://polaris.astro.physik.uni-potsdam.de/wiki/doku.php?id=en:software:howto\_gdl\_install&rev=144365299

Last update: 2015/09/30 22:43

