

# Access to the laboratory computer

The analysis of the data obtained within the scope of the laboratory courses can either be done from your computer at home or directly at our laboratory computer after previous date arrangement.

## External Login by SSH

The remote analysis of the data can be done in the computer pool at the physic institute or at your home computer with internet access.

```
User:      mal
Password:  is given in the seminar
```

mal is given here as an example and must be replaced by the corresponding group name. The password can also be obtained from the supervisors.

## Linux / Unix

Since the computers in the astrophysics are all operated with Linux, it's easy to log in from another computer with the same operating system. So you can do the complete evaluation from distance by logging in with a normal SSH connection on our laboratory computer. This also works for graphical output (i.e. view FITS files or text editors), but the performance crucially depends on the connection speed. In the computer pool at the university this is no problem but with a connection at home the speed may be low.

Login in the console with this command:

```
ssh -X mal@a12.astro.physik.uni-potsdam.de
```

mal is given here as an example and must be replaced by the corresponding group name. You will be asked for the password. The parameter **-X** (capital X) ensures that graphical output will be transferred so it can be displayed.

## Windows

### PuTTY and Xming

Linux uses the X-Window-System to display graphical output while Windows has it's own system. That's the reason why graphical output from a Linux computer can not simply be displayed by Windows. To solve this you need to install an X-Window-Server designed to work with Windows. There are many options and programs that offer this functionality and we suggest these, slim freeware solutions:

### Required programs

- [PuTTY](#) as the SSH-Client
- [Xming](#) to display X-Window-Server windows

First install the server Xming, which optimally should be incorporated in the Windows autostart list. PuTTY is an executable that just requires a quick configuration:

- click on the menu item *Session* and enter `a12.astro.physik.uni-potsdam.de` in the field *Hostname*
- in *Connection* → *SSH* → *X11* check *Enable X11 Forwarding* to allow graphical output
- in case of problems with the graphical output, enter `localhost:0` in the field *X display location* in *Connection* → *SSH* → *X11*

## MobaXterm

MobaXterm is a SSH client which already includes the X11 Server.

- [MobaXterm](#)

## Operating system independent

## Internal Login

The computer for the laboratory courses shall be used for data reduction. It is in room 2.009 in the Institute in Golm and can be booked, i.e. request a timeslot by email.

These timeslots are already booked:

## External Login from the computer pool in the Physics Institute

Also the Linux computers in the computer pool of the Physics Institute (room 2.28.1.101) can be used to login on the lab computer. See the description here: [Linux](#). The computers share the fast internet access of the University and so the transfer rate, i.e. for graphical output it is sufficient to work. To get an account for the computer pool, ask Mr H. Todt (room 2.28.2.004).

## Linux Sheet Paper

This [pdf file](#) list the absolutely basic commands for a Linux console. The [Bash Cheat Sheet](#) contains some further commands.

## Access to files by SFTP

Pure file transfer is possible, independent of the computer system, by logging in with SFTP (Secure File Transfer Protocol). All you need is a program that can run SFTP transfers, be it console based or graphical (i.e. [WinSCP](#)).

The login information are in principle the same as for the SSH client:

```
Server:  a12.astro.physik.uni-potsdam.de
Protocol: SFTP
User:    ma1
Password: as before
```

ma1 is given here as an example and must be replaced by the corresponding group name.

**Attention:** In contrast to the login methods described in the previous sections, SFTP is just for file transfer. It will not let you work on data reduction or alike.

## Virtual laboratory computer

We offer a virtual laboratory computer, see [here](#).

[Laboratory Courses- overview](#)

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