For the tutorial “Rotational Spectroscopy for Radioastronomy” by S. Brünken you need to install the software PGOPHER on your own laptop prior to the course. The following gives a brief guide on how to install it.

Quick guide to install PGOPHER

PGOPHER is a free open source program written and maintained by Colin Western (University of Bristol) for simulating and fitting rotational, vibrational, and electronic molecular spectra (Western 2017). There is a website where the program can be downloaded and where additional information and support (online manual) can be found: http://pgopher.chm.bris.ac.uk/

The program is very powerful and can be used to

a) Analyse an experimental spectrum by fitting spectroscopic constants to the data
b) Use known spectroscopic constants to simulate a spectrum

It can be used for electronic, vibrational, and rotational data. In the tutorial we will work only with rotational data. We will learn how to analyse a simple experimental spectrum and then how to predict the rotational transition frequencies of a molecule that you, e.g., want to search for in space.

1. Download Pgopher from the website http://pgopher.chm.bris.ac.uk/
   - Go to Download, read the readme.htm or readme.txt
   - Windows: safe PgopherU64.exe (for 64bit machines) or Pgopher.exe (for 32bit machines) together with pgopher.chm in any convenient folder, see http://pgopher.chm.bris.ac.uk/Help/installwin.htm for further instructions.
   - Mac: download and unzip pgopher-MacOSX-i386-carbon.app.zip and install (needs OS X Leopard (10.5) or above), see http://pgopher.chm.bris.ac.uk/Help/installmac.htm for further instructions. If you use OS X Catalina (10.15) you need to install the development Version pgopher-MacOSX-x86_64-cocoa.app.zip that can be found here: http://pgopher.chm.bris.ac.uk/pgopher-beta/pgopher-MacOSX-x86_64-cocoa.app.zip
   - Linux: download and unzip pgopher-x86_64-linux-gtk2.tgz, see http://pgopher.chm.bris.ac.uk/Help/installlinux.htm for further instructions.
   - You should be ready to use the program
2. There is also a very detailed online help on the website (which you can use in case the help function installed on your computer does not work).
3. Download the .zip files with the material for the tutorial from the shared repository, the link will follow.

References

Western, Colin M. 2017. “PGOPHER: A Program for Simulating Rotational, Vibrational and Electronic Spectra.” *Journal of Quantitative Spectroscopy and Radiative Transfer* 186 (January): 221–42. https://doi.org/10.1016/j.jqsrt.2016.04.010.