FakeQuakes Installation Instructions

*Note: FakeQuakes can only be run on a Mac or Linux machine

Setup Python Environment

The following dependencies are required to run FakeQuakes:
Obspy `$ conda install -c conda-forge obspy`
Pyproj `$ conda install -c conda-forge pyproj`
UTM `$ conda install -c conda-forge utm`
mpi4py `$ conda install -c anaconda mpi4py`
GCC and **GFortran**

- If you are using a Mac, you can just install **Xcode Developer Tools** (Apple app store)
- If you are on a Linux machine: `$ sudo apt install build-essential` `$ sudo apt-get install gfortran`

Download Tutorial

The Jupyter notebook and data for this tutorial are stored in a git repository. Clone this repository somewhere on your machine:
`$ git clone https://github.com/taranye96/FakeQuakes_tutorial.git`

Install MudPy

1. **Clone MudPy repository**
   `$ git clone https://github.com/dmelgarm/MudPy.git`

2. **Build the fk Green's function code**

   - Inside MudPy/src/fk/ run:
   `$ make clean`
   `$ make all`

3. **Set paths (.bash_profile or .bashrc script)**

   - Add the Mudpy src/fk folder to your PATH variable
   i.e. in my .bash_profile script I have
   `export PATH=/path/to/MudPy/src/fk:$PATH`

   - Add the Mudpy src/python folder to your PYTHONPATH
   i.e. in my .bash_profile script I have
   `export PYTHONPATH=/path/to/MudPy/src/python:$PYTHONPATH`

   - Define the MUD environment variable
   i.e. in my .bash_profile script I have

```
export MUD=/path/to/MudPy
```

4. **Verify everything worked**

   Type the following into the terminal and a help screen should appear:

   ```
   $ fk.pl
   ```

   ```
   $ syn
   ```

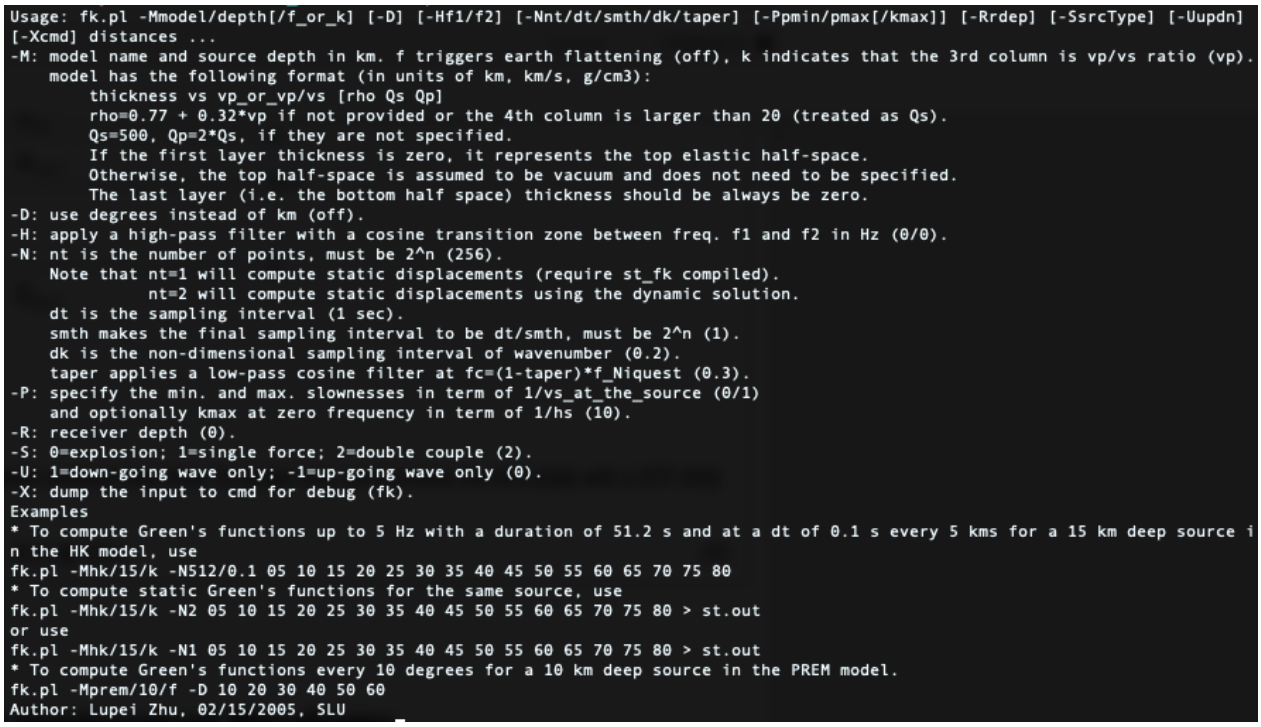

Figure 1: fk.pl help screen

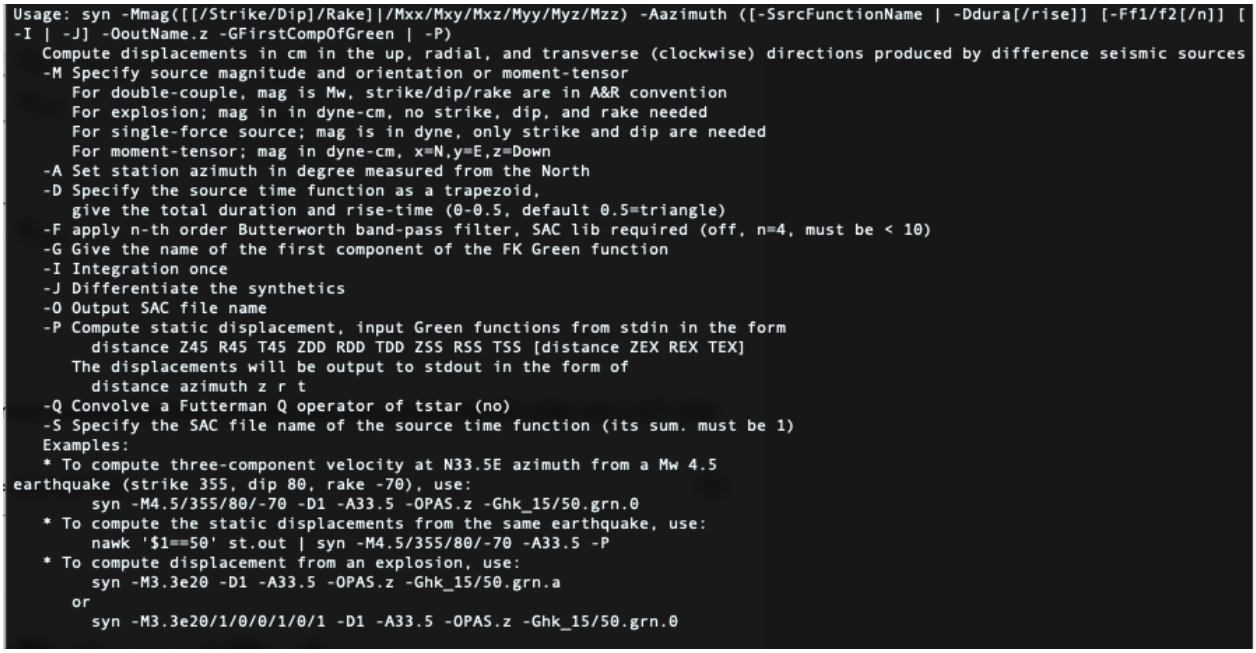

Figure 2: syn help screen