

Installation of rsMap3D on Linux Host

These installation instructions assume the use of the Anaconda Python distribution from Continuum Analytics. We use Canopy for these instructions as it is the default Python environment used by the Advanced Photon Source at this time. For these instructions, Anaconda 2.5.0 and the packages provided by Anaconda were used as much as possible. The description written here was put together using a fresh Anaconda install in order to provide as much information as possible for the beginning user.

In order to install run rsmMap3D the user will need to install Anaconda, and install/check the install of a number of other python packages and then install:

- [xrayutilities](#)
- [spec2nexus](#)
- And then download the source for [rsMap3D](#)

Installation and setup of Anaconda

[Anaconda](#) is a completely free bundling of Python by Continuum Analytics. Note that although Continuum Analytics does provide Anaconda at no cost, it does provide [some additional levels of support](#) for a fee . To install Anaconda Python, go to the download site mentioned above you should see a web page with a section that looks like



Running the installer as described will prompt for acceptance of the license agreement and installation directory. Assuming acceptance of the license agreement, enter a location for anaconda installation. Note that this installation does not require administrator privilege, it just requires write access to the install director for all that need to provide maintenance. It will take some time to complete the installation since Anaconda provides many common packages by default.

For rsMap3D we need to make sure that the following packages are installed: numpy, vtk, pytables and PyQt4. Installation can be verified by launching an Anaconda prompt from Start->All Programs->Anaconda2 (64-bit). We can verify package installation with

```
conda search <packagename> at the prompt.
```

At this time, Anaconda 2.5.0 is being used and the following packages are available and those not installed by default can be installed with the command

```
conda install <packagename>
```

Required packages

- numpy 1.10.4 is already installed
- pyqt 4.11.4 is already for installation
- vtk 6.3.0 is available for installation
- pytables 3.2.2 is installed
- h5py 2.5.0 is installed
- pillow 3.1.0 is installed (or pil)

Make sure to install these packages now. Note that we will also need xrayutilities and spec2nexus (described below).

Installing xrayutilities

Xrayutilities is a package written by Dominik Kriegner and Eugen Wintersberger. We are presently using version 1.0.6 of xrayutilities. This package can be downloaded as a tar.gz file from <http://sourceforge.net/projects/xrayutilities/>.

To unbundle the package in /local/xrayutilities-1.0.6:

```
cd /local
tar -xzvf 'path to file'/xrayutilities-1.0.6.tar.gz
```

This package includes a setup.py file to help with the install. To install xrayutilities run:

```
cd /local/xrayutilities-1.0.6
~/Enthought/Canopy_64bit/User/bin/python setup.py install
```

Installing pySpec

pySpec is a python package written by Stuart Wilkins. We have been downloading the latest version of pyspec from the repository on github. To download into /local/pyspec:

```
cd /local
git clone https://github.com/stuwilkins/pyspec
```

Like xrayutilities, pyspec comes with a setup.py file to help with the installation. To install pyspec run:

```
cd /local/pyspec
~/Enthought/Canopy_64bit/User/bin/python setup.py install
```

Installing rsMap3D

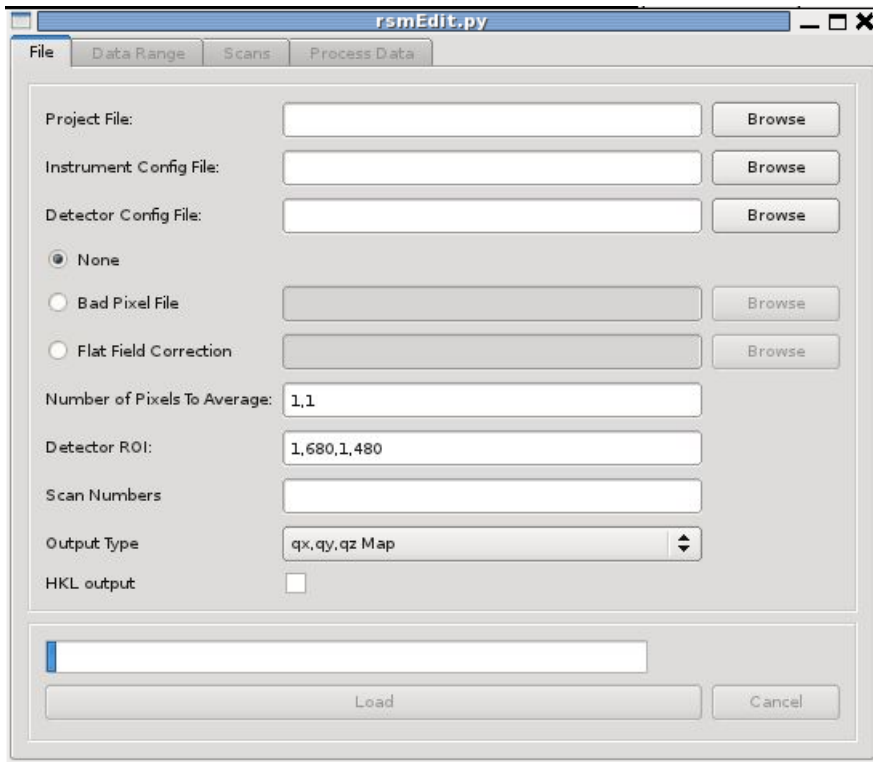
rsMap3D is now available as a package on the [Python Package Index](#). This allows installation of rsMap3D using the python pip installer

```
pip install rsMap3D
```

A windows .bat file is installed in the path defined by the python installation (the Scripts subdirectory for the Anaconda distribution). The application can be launched by running

```
python -m rsMap3D.rsmEdit
```

You will then see a window like the following:



You are now ready to start using rsMap3D.