- Install ctools on tehanu using conda installation together with root
- Install conda (assumes I am in tehanu's home)
    - cd
    - cd Downloads
    - wget https://repo.anaconda.com/archive/Anaconda3-5.0.0-Linux-x86_64.sh
    - (cd)
    - bash Downloads/Anaconda3-5.0.0-Linux-x86_64.sh -b -p /a/data/tehanu/capasso/anaconda3-5.0.0/ -f
    - NOTE: why using such an outdated version of conda? Anaconda3-5.0.0 comes with conda 4.3.27; later versions of conda (e.g.: 4.8.2 coming with Anaconda3-2020.02-Linux-x86_64.sh) freeze when "Solving environment" for installing ROOT. The reason is to me unknown, but this is not the case for 4.3.27 – which came shipped with 5.0.0 and never had this problem
    - NOTE: in the end I installed ROOT from scratch because the conda installation was broken…(see Installation_v2 for encountered errors). But I sticked to this conda anyway
    - conda create --name cta --clone root

- Follow instructions for installing ctools using conda
    - http://cta.irap.omp.eu/ctools/admin/install_conda.html
    - Note: following instructions did not work – in my case:
        - *conda install ctools*, installed
            - *cfitsio-3.470-hb7c8383_2*
            - *ctools-1.6.1-py37h63d4411_1*
            - *gammalib-1.6.1-py37h4b37321_1*
        - but, when run the test *python -c 'import ctools; ctools.test()'* it failed with the error
            - *ImportError: libcfitsio.so.5: cannot open shared object file: No such file or directory*
            - Problem seems to be related to cfitsio version (see https://github.com/conda-forge/rasterio-feedstock/issues/129)
        - Workaround:
            - *conda install cfitsio=3.430*
            - *conda install gammalib=1.6.3*
            - *conda install ctools=1.6.3*
    - source deactivate
    - source activate cta
- install ROOT
    - *cd /nevis/tehanu/home/capasso/software*
        - *NOTE: software is a softlink -> /a/data/tehanu/capasso/software*
    - *wget https://root.cern/download/root_v5.34.38.source.tar.gz*
        - NOTE: why this root version? Asked Jürgen, he has on his Mac 5.34.34…tried with that one, but when running csroot2caldb it fails with the following error

- *AttributeError: type object 'TArray' has no attribute '__getitem__'*
- https://root-forum.cern.ch/t/tarray-has-no-attribute---getitem--/22427
- In the end I changed to 5.34.38 (as it seems related to the version problem…)

  - *tar -xvf root_v5.34.38.source.tar.gz* (will extract in folder "root")
  - *mv root root_v5.34.38*
  - *mkdir root*
  - *cd root_v5.34.38*
  - NOTE: with my python installation, the configure script would not find Python.h and libpython
    - *Checking for Python.h ... no*
    - *Checking for python3.6, libpython3.6, libpython, python, or Python ... no*
  - But they can actually be found in
    - */a/data/tehanu/capasso/anaconda3-5.0.0/envs/cta/include/python3.6m*
    - */a/data/tehanu/capasso/anaconda3-5.0.0/envs/cta/lib*
  - SOLUTION: in configure script, there is a string *pysuffix=" "* which is unset → change to *pysuffix="m"*
  - *export PREFIX=/nevis/tehanu/home/capasso/software/root*
  - *./configure --prefix=$PREFIX --enable-python --with-python-incdir=/a/data/tehanu/capasso/anaconda3-5.0.0/envs/cta/include/python3.6m --with-python-libdir=/a/data/tehanu/capasso/anaconda3-5.0.0/envs/cta/lib --enable-builtin-pcre --enable-builtin-lzma --enable-builtin-afterimage --enable-builtin-ftgl --enable-builtin-freetype --enable-builtin-glew --enable-builtin-zlib --etcdir=$PREFIX/etc/root*
    - *NOTE: the modified configuration file is here ~/utils/configure_ROOT_5.34.38*
    - *NOTE: the used configuration is here ~/utils/config_ROOT_5.34.38.status*
  - *make -j1*
    - NOTE: why -j1? Not sure why, but it hangs with j>1 (https://root-forum.cern.ch/t/build-of-5-34-18-hangs/17767/3)
  - *make install*
- In ~/.myprofile add
  - *alias init-conda3-5.0.0='[[":$PATH:" != *":/a/data/tehanu/capasso/anaconda3-5.0.0/bin:"*]] && PATH="/a/data/tehanu/capasso/anaconda3-5.0.0/bin:${PATH}"'*
  - *alias init-conda3-cta='init-conda3-5.0.0 ; source activate cta; source /nevis/tehanu/home/capasso/software/root/bin/thisroot.sh'*
- *source .myprofile*
- *init-conda3-cta*
- execute the tests
  - *python -c 'import ctools; ctools.test()'*
  - *python -c 'import cscripts; cscripts.test()'*

- *python -c 'import gammalib; gammalib.test()'*