I-PHOQS LTP on "Ultraintense Lasers" - Phase Retrieval by Intensity Measurements

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Setting up the data analysis tools

Data analysis will be carried out using python (and python packages/libraries). You can use of course whatever python implementation you prefer. For the sake of your convenience, we're going to briefly outline here a possible way to get a python environment with all the tools needed (including `numpy, scipy, matplotlib, jupyter-notebook, opencv` and `LightPipes`) installed.

We strongly advice you to use the `anaconda` python distribution. It can be downloaded for all the most frequently used OS (Linux, MacOS and windows). Once having performed the `anaconda` installation, we advice you to create a dedicated conda "environment", so as not to mess up your base pythoin envirnment. Doing this and installing the needed packages/libraries can be done with the following commands:

```
>conda create -n iphoqsltp numpy scipy matplotlib jupyter
>conda activate iphoqsltp
>conda install -c conda-forge importnb
>conda install -c conda-forge opencv
>pip3 install LightPipes
```

After that, you should be able to launch `>jupyter-notebook` and create and/or use a notebook with all the packages mentioned above.

Converting data images

During our training, it may occur that images in a raw format (namely, PEF), depending on the camera you're going to use, are taken. We provide you with a small python code to convert them to TIF.