

# Streptavidin affinity grids (SAG) lattice subtraction

Requested files :

- gridtools.py
- mrc\_rw\_3.py
- pattern\_optimizer.py
- sagsub\_3-2\_stable\_parallel\_nils.py

Place them all in a SAGsub3 folder in your home directory (`~/SAGsub3/`)

Most of the required python libraries are already available on the python hpc. Only the mrcfile library is missing and should be installed on phantom-node39 (I already did it, but I am not sure if its available for other account then mine)

```
ssh login@hpc.igbmc.fr
ssh login@phantom-node39
module load python/3.9
pip3 install mrcfile
```

Go to the folder containing the motion corrected micrographs to which the lattice subtraction needs to be applied (it can be resumed if it was partially ran before). Rub the command:

```
python3 ~/SAGsub3/SAGsub_3-2_stable_parallel_Nils.py --force_apix 0.729
```

The `-force_apix 0.729` is for Krios2 datasets; it needs to be changed for the other microscopes/cameras

Useful commands:

- Ctrl+Z to put the job in background
- `fg` to bring the job to the foreground

You can check the results in the `SAGsub.star` file Format, with different columns:

1. Micrograph name
2. Mosaicity (should be 1 most of the time)
3. Discrepancy between simulated and optimized lattice (Ok up to a value of 1)
4. Success or fail (only tells you if the micrograph processing was done, regardless of the quality)

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