**MOT EXPERIMENT**

**### These are preliminary steps to properly characterise the MOT**

* **Python preparation:**

- Close unnecessary programs

- Open Anaconda Prompt and go to the folder ExperimentMOT\_special

- Activate the virtual environment QuantumLabControlPy36

- Open the ipython console

- %run -i Start.py (open manager Resource and the devices)

- AWGSafeConfiguration()

- now you can run all the codes you want (if you copy and paste, use %paste), if you run other scripts always start with %run -i (to run the scripts in the main NameSpace)

- you can keep modifying scripts using, for example, Notepad++, Sublime text

- Prepare an Experiment Folder where to store experiment data at the end

* **Setup preparation:**

- Realign MOT branches or just 50 mm lenses. Do the same for the Repump

- Check Pump (100 us exp time) and Probe (400 us exp time) intensities on the cameras

- Load the MOT (Switch on the chiller!)

- align cameras on the MOT

- Optimise MOT Laser intensity and lambda/2

- focus cameras on the MOT. Define the ROI

- check pump and probe overlap with the MOT

* **Optimisation:**

- rod distance: its image should be focused on the camera (which was already focused on the MOT)

- define pixel integration region

- Pressure Measurement: use Presure\_measurements.py

- MOT detuning: use MOT\_detuning.py

- Repump detuning: use Repump\_detuning

- Probe detuning: use Probe\_detuning.py

- Probe intensity and duration: use Pump\_and\_Probe \_1shot (without pump)

- Pump detuning and duration: use Pump\_detuning.py, Pump\_duration.py, Pump\_analysis.py

From now on you start the experimental procedure!