

Laserpower Measurement Tutorial

Instrument & measuring mode

- Use Powermeter PT 9610
- **Primary switch on** is at the top side of device (On/Off-slider)
→ After use you always have to switch off the primary switch in order to avoid a shift in instruments precision!
- **Secondary switch on** at the bottom of control panel (On/Off-pushbuttons)
- Measure in RMS L Mode X
- Set mode by using buttons: **RMS** and **HF/LF/WB**
- List the upper value in the spreadsheet
- The measuring field on the detector head is the white spot, try to center the beam in it

General

Always use the same 10x objective (Olympus) or the 10x/0.3 (Zeiss) for measurement. Lasers should be switched on at least 1 hour before measuring to warm up. Set the argon laser emission to approx. 30% for warming up. For measuring boost emission up to 100% (especially important for the argon laser).

Adjust the detector head with a weak laserline (like 458nm) with approx. 30-50% emission. The measuring field is the white spot on the head. Don't forget to switch the different wavelengths on power meter, too (arrow keys).

Avoid outside light sources because they will falsify the measurements. Record the values when they are stable.

Measurements are to list in the spreadsheet of the particular microscope.

URL:

docs.google.com

Measurements at Spinning Disc Confocal

1 hour before measurement

- Switch on the power supply behind the curtain
- Turn the key (key switch left of the microscope) to "motor on"

NOTE: wait 5 min and then switch on the computer (last)

Directly before measurement

- After boot up start **Andor Software** and choose **LMF User Fast**

Microscope settings

- Turn the wheel at the front of the microscope to **Camera**
- **shutter** under the objective revolver should be **open** (position 5)
- turn the **key** of the key switch to **laser on** → on the left side of the microscope

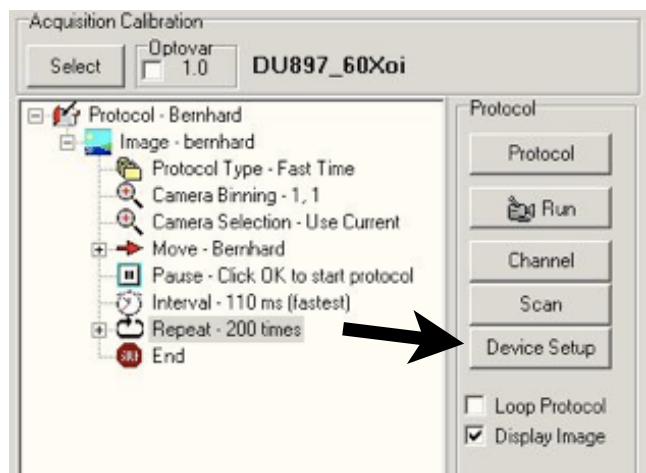
Detector head

- Place detector head with measuring field downwards on slide holder
- While maximizing first laser emission (later in procedure) center the beam in scan field
- Therefore use a low wavelength with approx. 50% emission
- bring the objective **close to** the detector head

Software settings

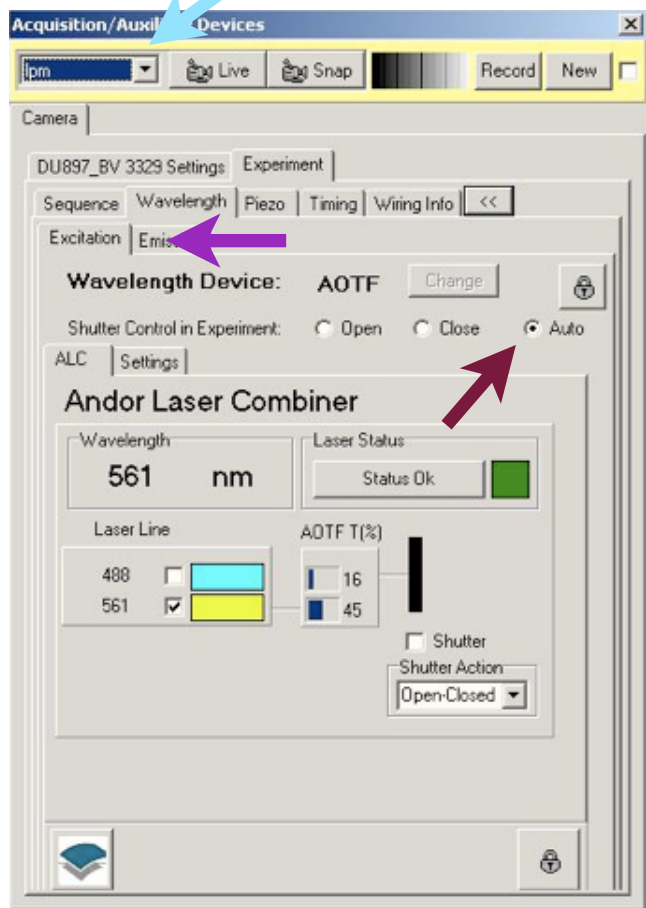
control software settings

- choose **Device Setup**



control software settings and

- choose **lpm** mode
- Experiment → Wavelength → **Excitation**
- **Shutter Control** should be **Auto**

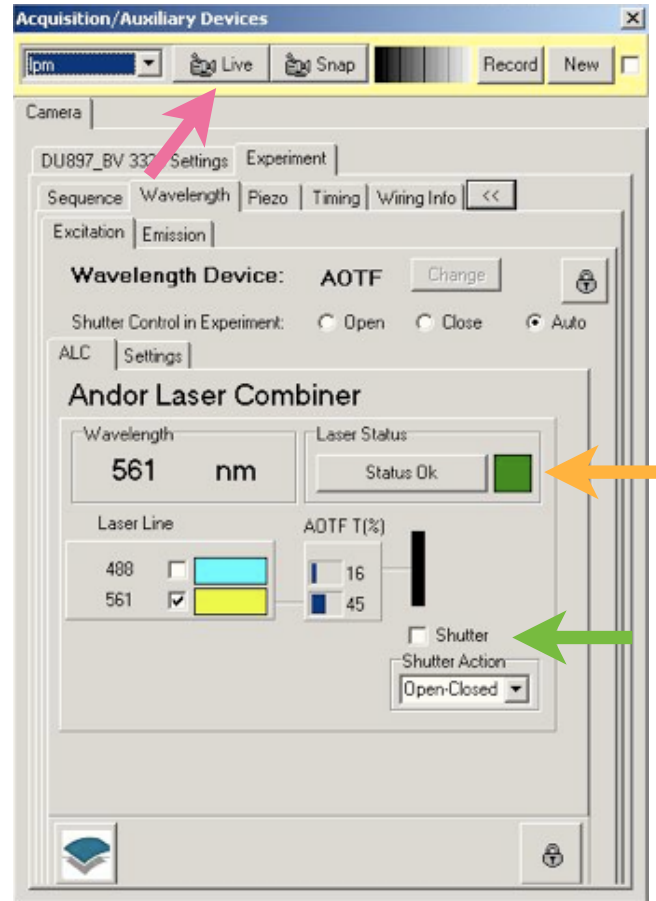


start laserpower measurement

- **Laser Status = OK**
- mark **Shutter** (shutter-Action should be „Open-Closed“)
- press **Live**
- if **warning** appears: „This shutter is not opened. Do you want to open it now?“ press **NO**
- in live-mode double-click on AOTF-emission
- turn **laser intensity** to **maximum** until 100%

NOTE: change laserlines by clicking into the field next to the wavelength you want to measure

- when you are **done** press the **live-button „Idle“** again and turn **laser intensity** back to **10%**



After measurement – shutting down routine

- close all windows and close the program
- if another user is coming log off Windows account
- if you are the last user shut down the computer and all system components backwards to the starting up