

# 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 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](https://docs.google.com)

Login: [lmf@mpi-cbg.de](mailto:lmf@mpi-cbg.de)

PW: backfocalplane

## Measurements at Spinning Disc Confocal

### 1 hour before measurement

- To start system according to the start routine switch on the power strip upon the laserunit

**NOTE:** wait 5 min and than 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 objectiv revolver should be **open**
- turn the **key** of the **lasercontrol** to **open** → on the left side of the microscope

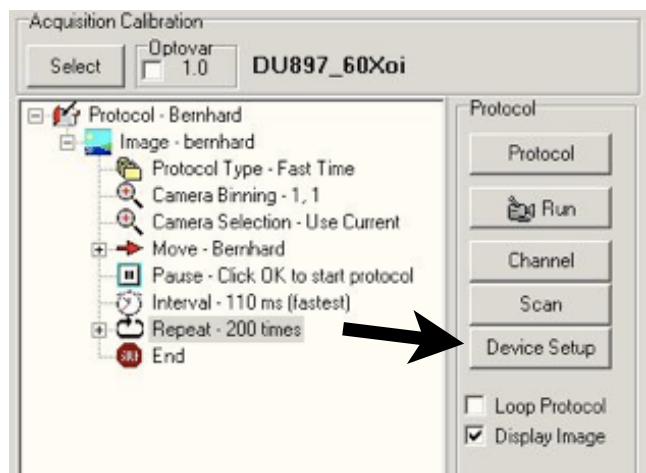
### Detector head

- 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 objectiv **close to** the detector head

# Software settings

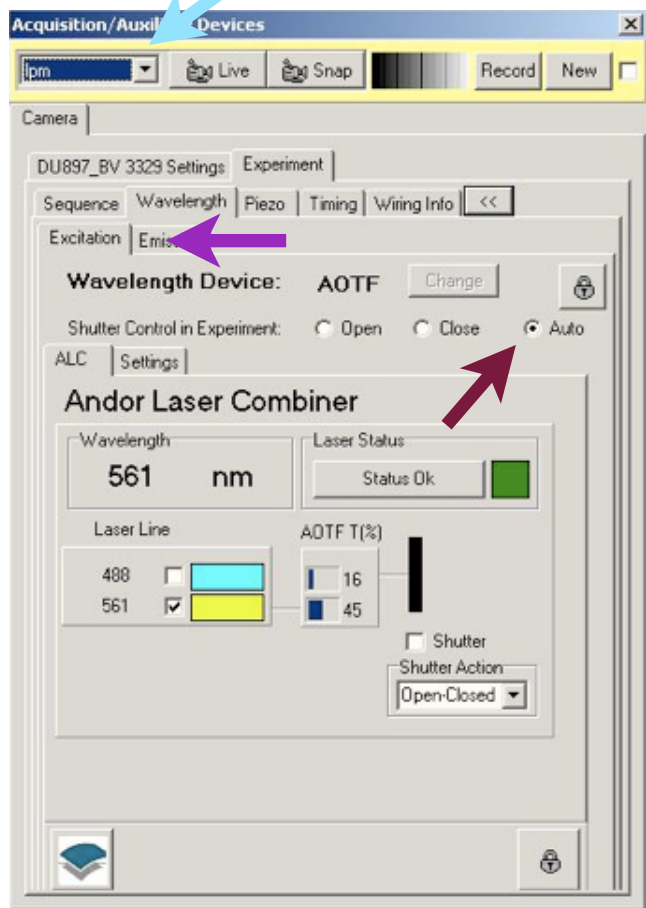
## control software settings

- choose **Device Setup**



## control software settings and

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

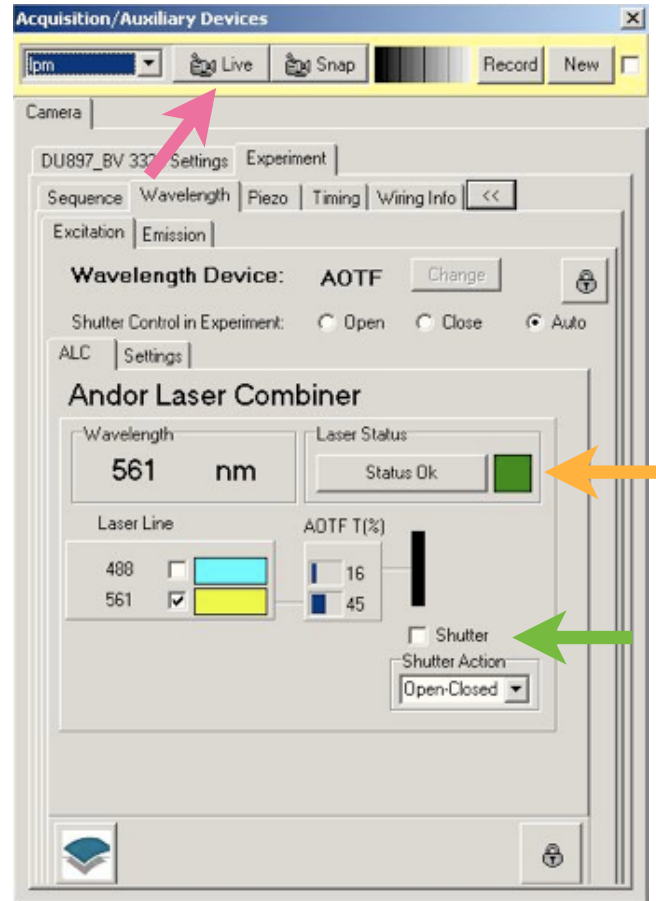


## start laserpower measurement

- **Laser Status = OK**
- mark **Shutter** (shutter-Action should be „Open-Closed“)
- press **Live**
- if there appears the **warning**: „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 programm
- 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