

Clocklaser

Turning on the Laser

We use optica electronics:

1. Turning the main-key to on
2. Push the green button. The green LED will go on!
3. Switch on the toggle (=Kippschalter) from the laserdiode.
4. Switch on the toggle from the TA, if he is seeded!

If the switches are on, then not steps 3. & 4. 😊

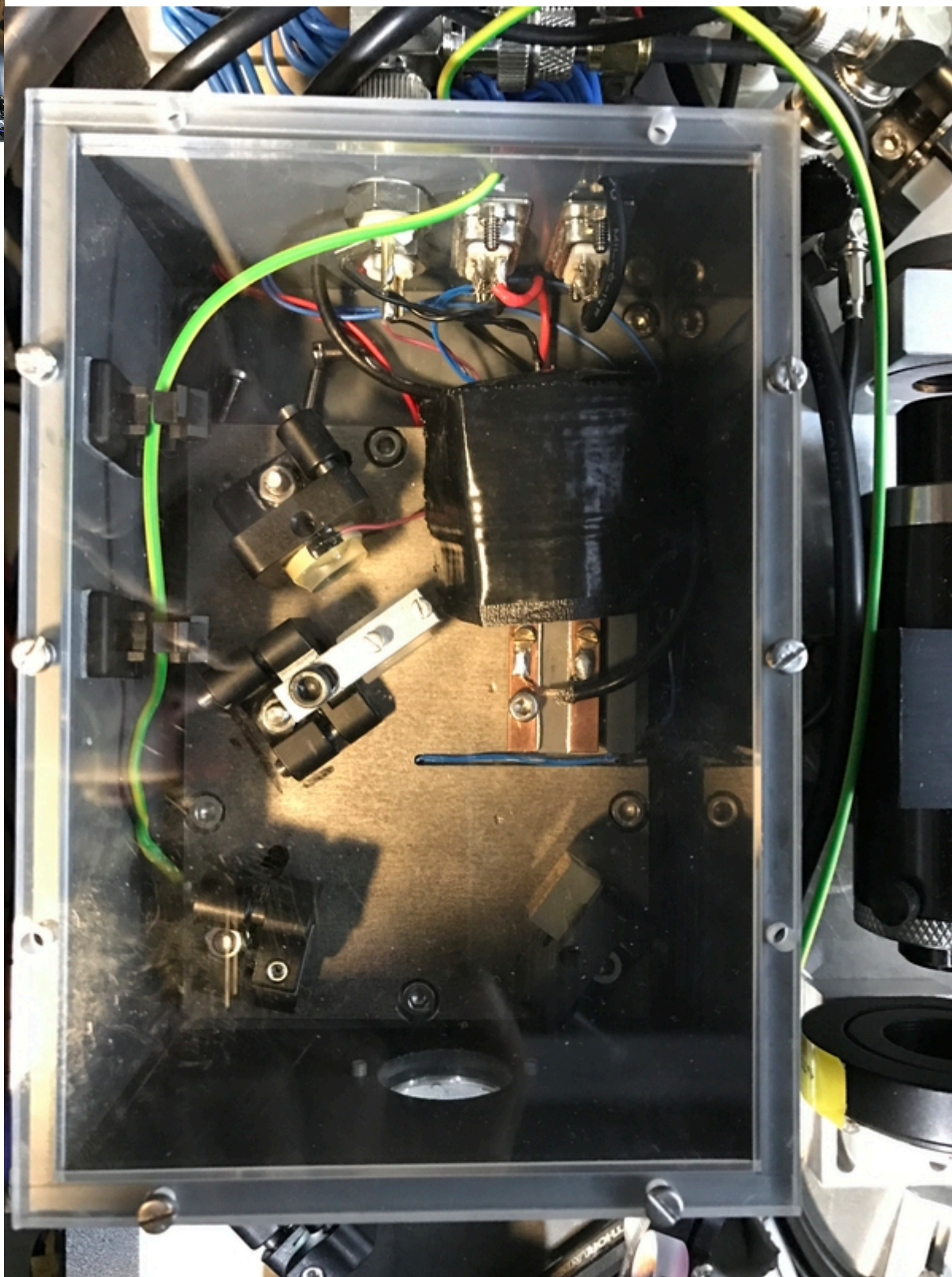
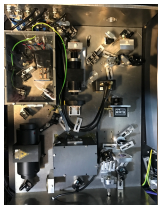
Turning off the Laser

Both toggles to switch to off(Laserdiode/TA) is not required!

1. Push the red button. The green LED will go out!
2. Turning the main-key to "mains"

Locking to the resonators

Littmann design



Typical efficiencies at 916 nm:

- Isolators: 80 %
- AOMs: 50-60 %
- Fiber coupling: 50 %

Typical values for the laser:

- Frequency: 327.5293 THz (doubled upstairs directly behind SHG: 655.058 566 THz)
- Power after ECDL: ~12 mW (@ ~90 mA)
- Power after TA: ~200 mW (@ ~1000 mA)
- TA current should be <1.2A otherwise the fiber stabilization will soar (=aufschwingen)

Typical values in front fibers:

- Power before fiber for wavemeter/comb/mode analysis cavity: ~12 mW
- Power before AtomLabFiber: ~30 mW → 15 mW upstairs before TA
- Power to R2: ~2.5 mW

Typical values for the resonators:

- In front of telescope: 2.2 mW
- In front of AOM: 1.5 mW
- In front of fiber: 450 μ W
- 100 μ W between Isolator and BS
- 50 μ W in front of Resonator

Typical values for locking signals:

- PDH error signal locked ~500 mV PP / unlocked ~200 mV PP
- Intensity Error signal ~2 mV PP / DC:
- Fiber Stabilization Locked ~200 mV PP / Unlocked ~2 Volt PP

Manuals and Datasheets

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