

ResLab:

Clocklaser (R1) is running fine; Outer Shield Temperature decreased by 20 mK

Frequency Comb is locked, but Beat signal is quite low → Maybe new pump diodes necessary

Reference Resonator (R2) broad linewidth problem: most probable dirt / oil on mirror from turbo pump maybe; EOM?

Maser available from 30.09. on

Hannover Beast:

Vacuum pressure necessary: 10^{-8} ; Stability \ fluctuations needed in the order of $\sim 10^{-10}$ for 10-18 freq. instability

Mechanical Stuff almost ready, some screw holes have to be done; orders for vacuum stuff almost ready

Mirrors will be transferred soon to PTB

Wettzell Laser:

Outcoupler mirror with 25 % reflectivity

Piezo is glued → The ECDL resonator is ready

Fiber coupled, efficiency ~ 25 %; new outcoupler lens: 65 %; adjusted through the isolator lens will be glued then

Old power: ~ 35 mW @ 170 mA

Powers now up to

Wavelength of 632,811 nm @ 100 mA

Temperature control ready \ Dual Meerstetter for baseplate & Laser diode

AOM breadboard not ready within 2 months

Waldemar can begin writing his thesis, put AOM into outlook; linewidth and stability measurement would be nice

HiWi contract until december; maybe stop it earlier

breadboard setup almost done, orders for AOMs prepared

Nandans FACT Meeting: Met Peter Wolf, spoke about paper, & Kurt Gibble → Paper discussion

AtomLab:

Scan over line @ 13.09.

Another pair of MOT coils → seems to be better, 15 Gauss B-field

Photomultiplier used; most efficient # (count) sensor;

new magic wavelength measurement has to be done \ already AC Stark measurement done carrier lw 400 - 1500 Hz

Ti:Sa problems, Autotune works nice, 3 mK temperature differences

degradation of mwl lattice windows, but enough power available

shortest pulses: 10 μ s; with new pulse box even shorter

Open questions:

What is the lw in a deep lattice? (from the last meeting)

→ hard to say...

What is the reason for broad linewidth of R2?

Maser for how long?

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Last update: **2016/09/15 13:16**

