

Maser: A. Bauch will take care on that

S. Sauer:

- PCF is ordered: will arrive this week
- OXCO behaviour checked after switching off and on again and also with backup upc
- gps reciver on/off behaviour checked

Atom Lab:

- Laser 2 TA changed, translation stage for the cylindrical lens implemented
- 50% through fiber due to new Diodes: beam shape more elongated, since than problems with fiber coupling,
- new pc for Xabbu3, money will come from vlbai,
- Balcony still not allowed to enter, we will prepare everything for the worst case, discuss with Ernst
- no Notstrom available (power is supplied by batteries)

Quench laser:

- got rid of frequency jumps by implementing new temperature controller at the diode (from kmk design to thorlabs)
- intensity fluctuations removed by aligning the polarization to the fiber
- Beam height aligned
- Waldemar calculated scattering rate to 1k at 20mW and 350um.

2nd Atom lab: part will go to QG, Saturation spectroscopy to Main lab, discussion an Wednesday with Ernst on that

Next meeting: 6.01.

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ResLab:

Clocklaser (R1) is running fine; Outer Shield Temperature decreased by 20 mK for higher control range at 13.09. due to an instability at this time

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 breadboard 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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