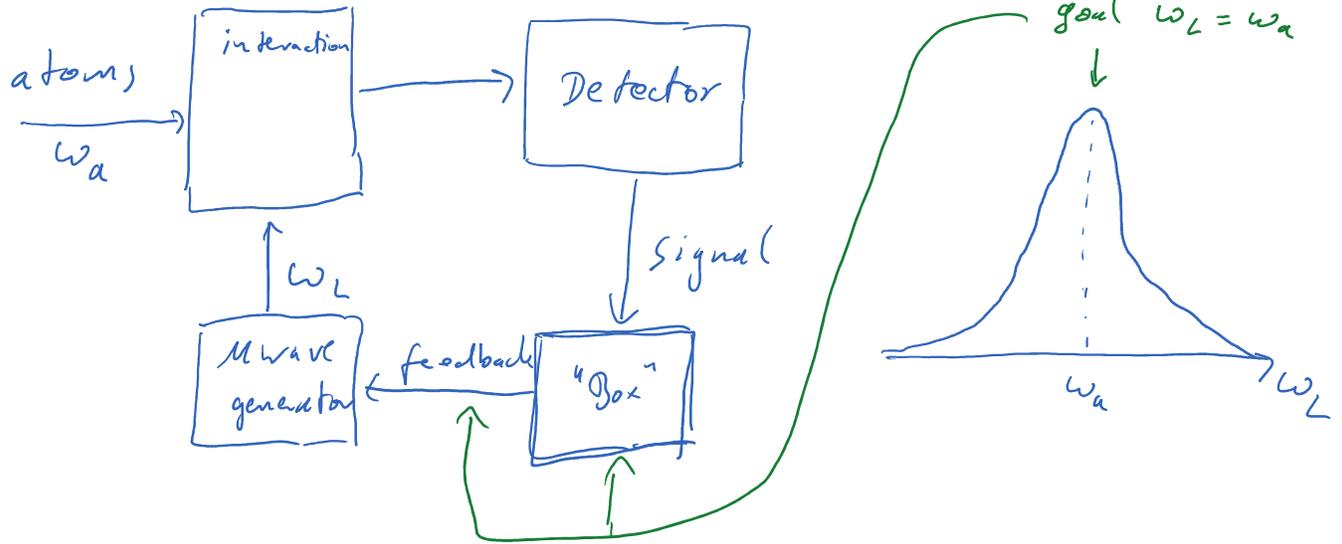


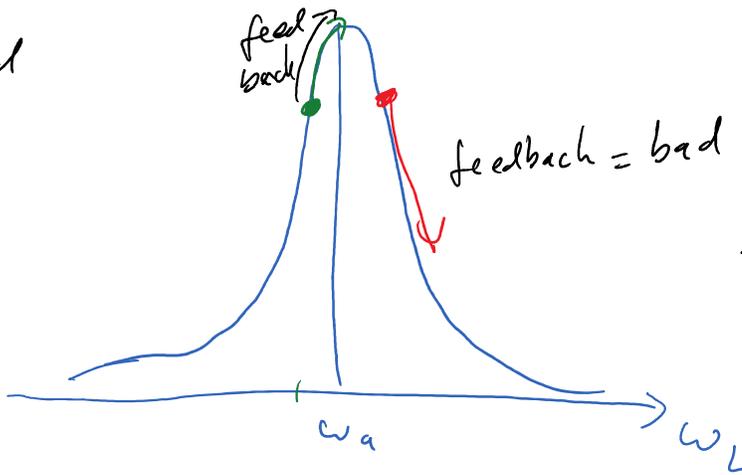
Frequency stabilization

Mittwoch, 5. Januar 2022 16:21



feedback:

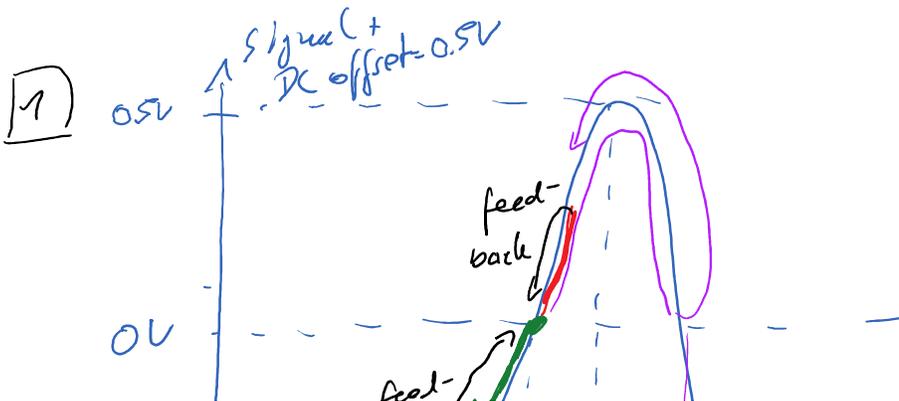
0) bad



= wrong way of creating a "top of fringe" lock

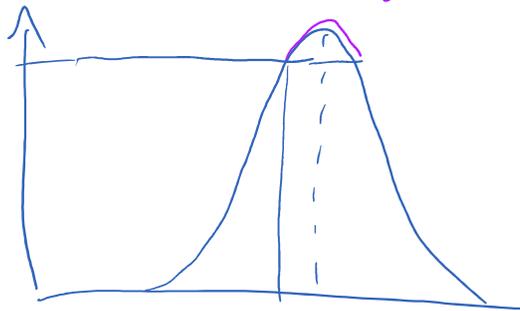
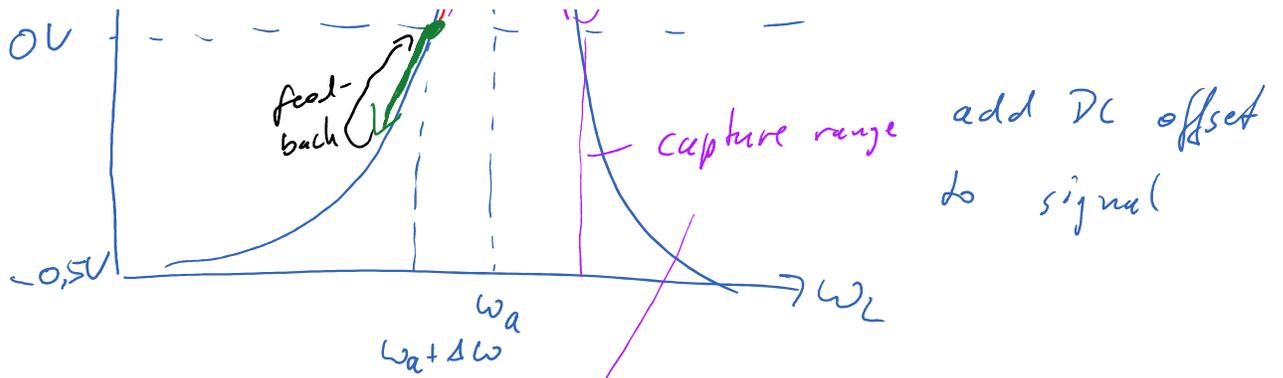
$$\omega_L < \omega_a$$

$$A(\omega_L) < A(\omega_a) = A_{max}$$



side-of-fringe lock

|| || || ||

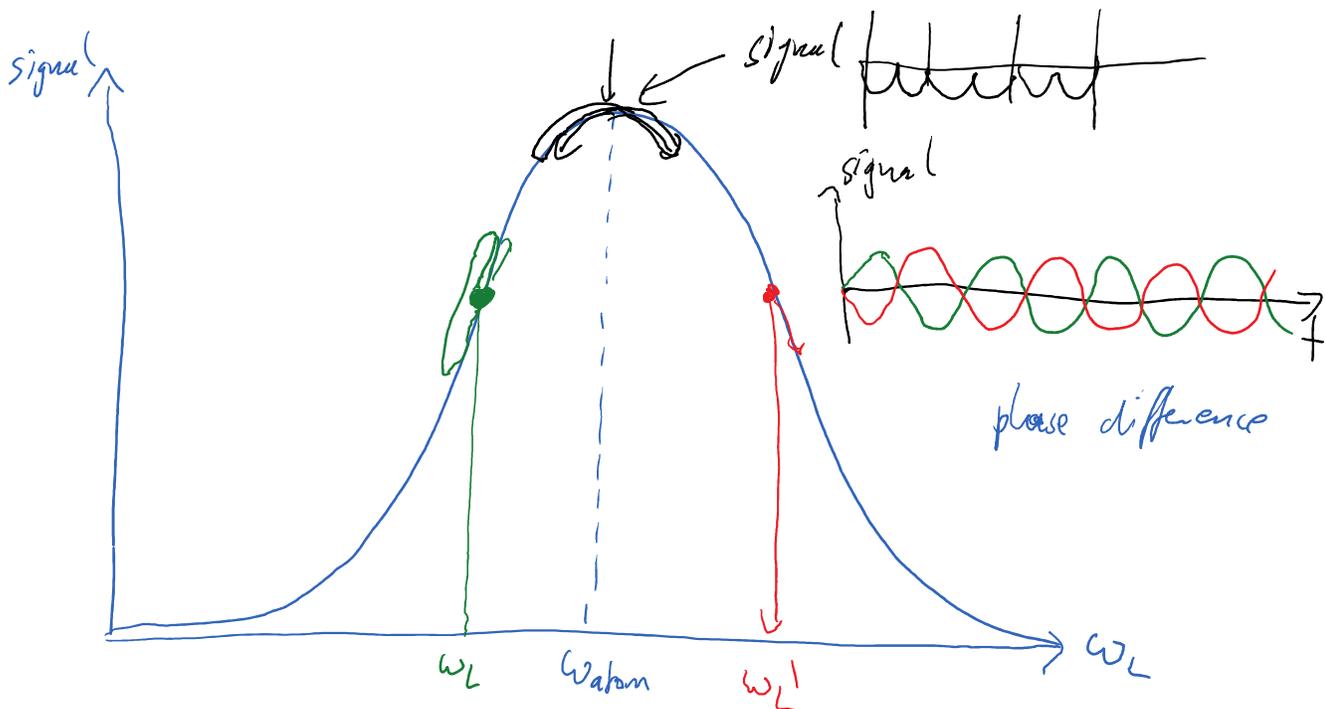
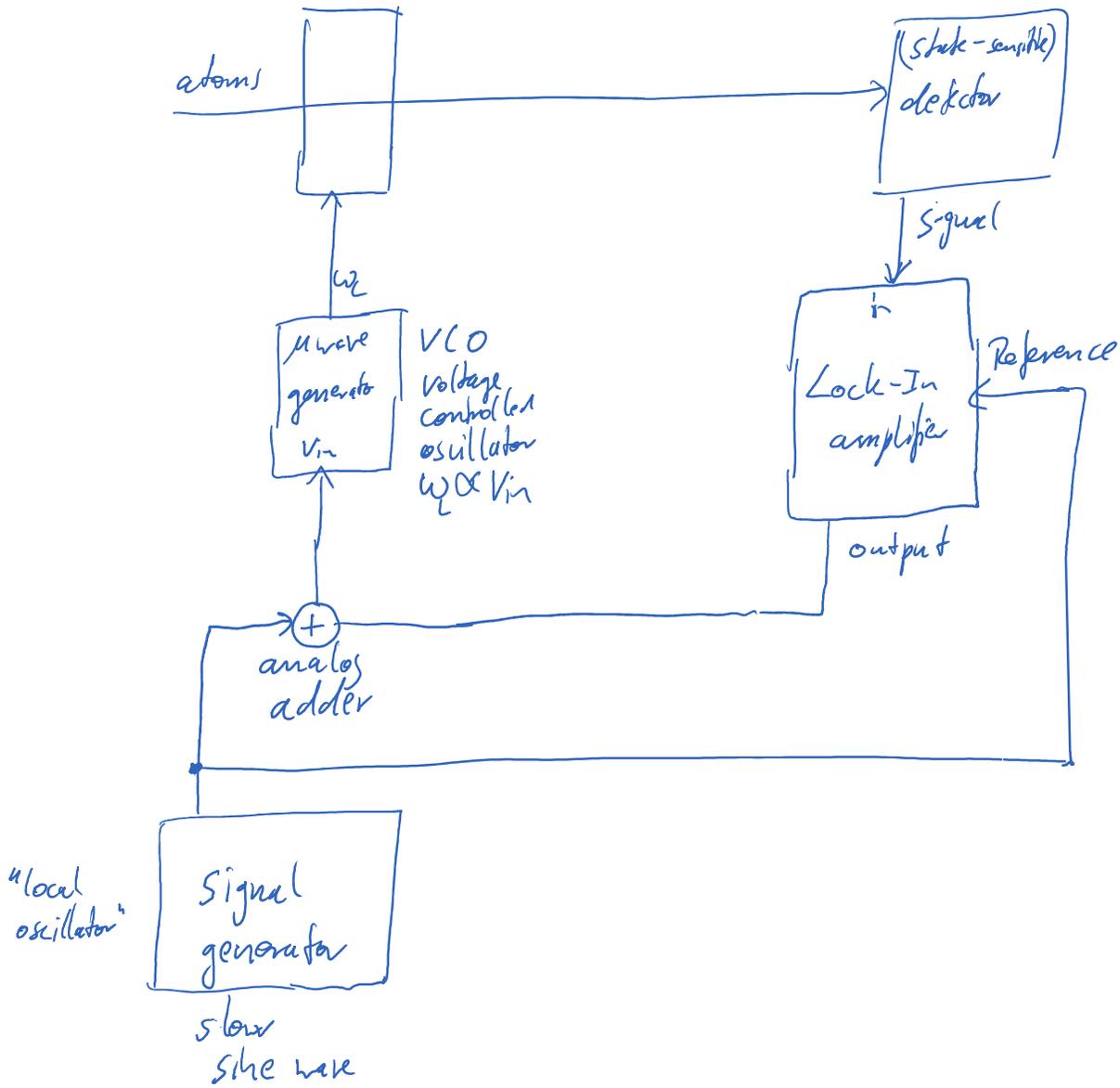


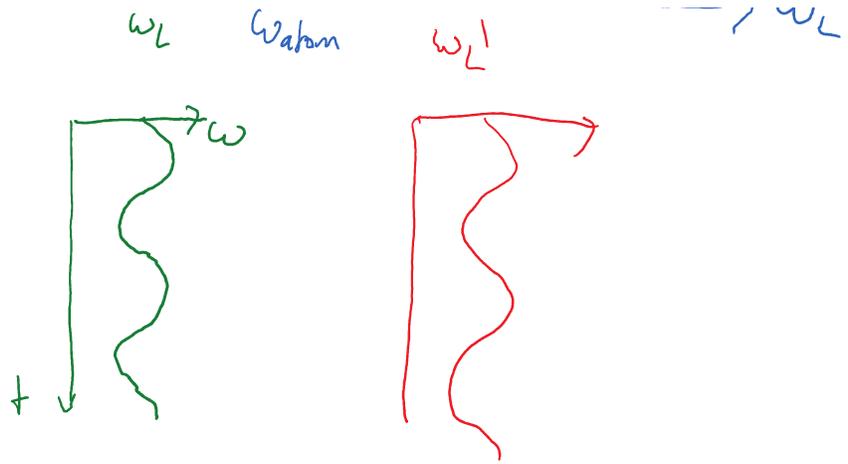
- Box = subtract DC offset
- + Amplifier PID loop
- P proportional
 - I integrator
 - D differentiator

2

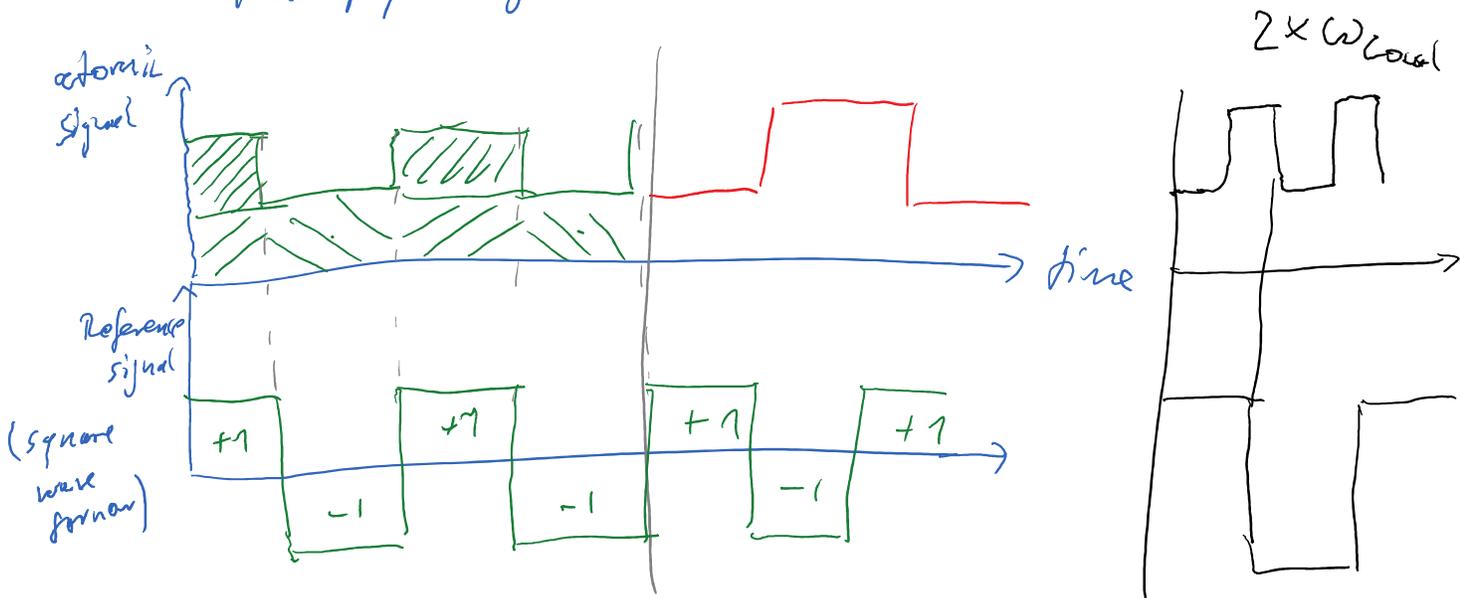
stabilize on top of hinge

iteration





Lock-In Amplifier:
multiply 2 signals



multiply signal & reference
& TRC-averaging

