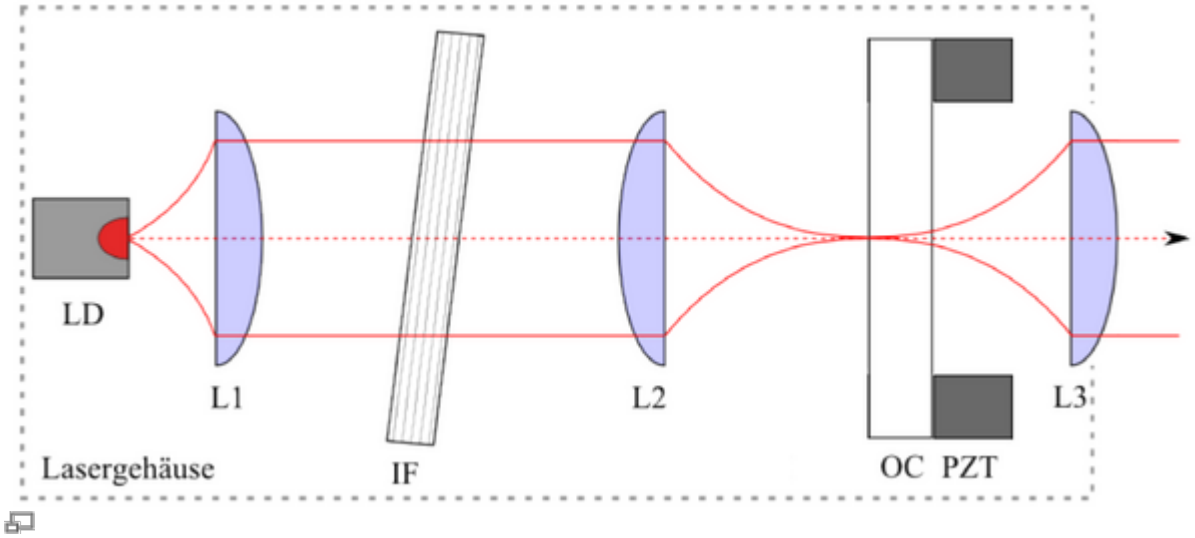
Instruction on how to build an ECDL (Quantus Design)

This instruction is mainly based on this instruction, written by an undergrad in the quantus group. While setting this laser up, many questions kept unclear so I wrote this extended instruction where I also included the necessary details.



ECDL from top-view. LD: Laserdiode, Lx: Lenses, IF: Interference Filter, OC: Outcuppling Mirror, PZT: Piezo

The basic principle of the laser is the following. The Lense L1 collimates the divergent beam of the Laserdiode (LD). The collimated light passes through an interference filter (IF) which can be used to coarsly steer the frequency. And additional Lense L2 focusses down the light ontop of a flat mirror (OC). This configutation is also known as cat-eye configuration and is less sensitive to imperfections in the orientation of the mirror. The laser-resonator now spans from the rear facette of the laser diode (not visible in the picture) to the mirror (OC). An additional lense (L3) is no utilized to collimate the resulting beam.

Outline

- Preparation
- Implementing the electronic components
- Installation of the laserdiode
- Setting up the resonator

Preparation

- Unordered List Item

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