



## Laser frequency stabilization and measurement of optical frequencies

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LAP Lambert Academic Publishing Jan 2012, 2012. Taschenbuch. Book Condition: Neu. 220x150x5 mm. This item is printed on demand - Print on Demand Neuware - This thesis is dedicated to measurement of optical frequencies with applications in metrology. The frequency/time interval is the best measurable quantity. The invention of the femtosecond frequency comb technique greatly simplified linking the radio-frequency and the optical-frequency standards. A primary wavelength standard for optical communications was developed in the first part of this work: the distributed feedback (DFB) laser diode was frequency stabilized to sub-Doppler spectral line of acetylene at ~1540 nm and its research, investigation of properties and absolute frequency measurements are described. The implementation and testing of commercial femtosecond comb makes second part of this work. Software for online frequency evaluation, tests of counting quality and frequency stabilization of the comb to optical frequency standard - iodine stabilized Nd:YAG laser - are described. 80 pp. Englisch.

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