

## **Subject of test(s) 2019, spring**

1. Electromagnetic waves, radiation, etc.
2. X - ray, detectors, Malus-law, foto-effect
3. Maser(s), laser(s), laser pulse, Brewster angle
4. Total internal reflection, optical fiber, holography
5. Black body radiation, de Broglie wavelength, H-atom (Bohr's postulates)
6. H-atom, harmonic oscillator, particle in the box, Schrödinger eq., wave function, Born's postulate
7. Theory of spec. rel. 1. (kinematics)
8. Theory of spec. rel. 2. (dynamics)
9. The Heisenberg uncertainty principle, angular momentum, H-atom, spin
10. Ti:Sa laser, short laser pulses, frequency comb, nonlinear index of refraction