


Lectures

- Tuesday HS2 start 14:05
- Thursday HS1 start 11:00

Problem sheets

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1. week: new problem sheets lecture Tuesday
calculation
 2. week: lecture Tuesday return of solution
correction
 3. week: exercises discussion of problem sheets

Evaluation

- completion of problem sheets: 30 %
- final examination break after term: 70 %
- midterm examination: + 15 % (additional)

Structure of the lecture

1. Light and matter \Rightarrow basic electrodynamics
2. Optical properties of solids – The classical approach \Rightarrow simple mechanical model
3. Basic properties of dielectric functions
4. Basic concepts of quantum mechanics
5. The Hydrogen atom and beyond
6. Other atoms
7. Molecules
8. Radiation fields in thermal equilibrium
9. Solids

Literatur:

- Classical parts:

Demtröder "Experimental physics II"

Jackson "Classical Electrodynamics"

E. Hecht "Optics"

- Quantum mechanical part:

Demtröder "Experimental physics III – atoms, molecules and solids"

R. Feynman, ... "Feynman lectures on physics III quantum mechanics"