ЦЕНТЪР ЗА ОБУЧЕНИЕ – БАН

1000 София
ул. „Сердика“ № 4
http://edu.bas.bg

email: tdc-phd@cu.bas.bg
тел.: 02 987 31 67
02 979 52 60

Basic Information:
Title: *EXPERIMENTAL METHODS IN ATOMIC PHYSICS*
Lecturer: Prof. DSc. K. Blagoev
Phone: 0885959706
Email kblagoev@issp.bas.bg
Total Teaching Hours: 30

Annotation (up to 150 words)

Experimental methods for determination of atomic spectra characteristics have been discussed. These characteristic are energy of atomic levels, wavelength of spectral lines, oscillator strengths, Fine and hyper-fine structures, intensities and width of spectral lines, transition probabilities, radiative lifetimes of excited atomic states. Modern methods are discussed and are compared with classical methods. Application of experimental methods for annalytical purposes are consider.

Course content (brief description by topics or modules)
Topic / Module 1: structure of atomic and ionic excited states and corresponding spectral lines
Topic / Module 2: methods for determination of characteristics of ecxited states and spectral lines.
Topic / Module 3: Application of experimental methods for annalitical purposes.

Teaching and assessment methods
lectures and/or interview
examination

Competencies acquired as a result of training (3–5 points)
competence for atomic structure and coresponding spectral lines
competence for modern experimenta tehique
competence for application of experimental methods for annalitical purpuses

Literature:

1. Петър Райчев, ***Строеж на атома***
2. А. С. Давидов, ***Квантова механика***
3. И. И. Собелман, ***Введение в теорию атомных спектров***
4. СЭ. Фриш, ***Оптические спектрьі атомав***
5/ S. Svangerg ***Atomic and Molecular Spectroscopy***
6. Thorne, A; Litzen, Johansson, S ***Spectrophysics. Principles and applications***