

Fine structure, one-electron and two-electron spectra 5.1.06-00



- What you can learn about ...
- Diffraction spectrometer
 - Spin
 - Angular momentum
 - Spin-orbital angular momentum interaction
 - Multiplicity
 - Energy level
 - Excitation energy
 - Selection rules
 - Doublets
 - Parahelium
 - Orthohelium
 - Exchange energy
 - Angular momentum
 - Singlet and triplet series
 - Selection rules
 - Forbidden transition

Principle:

The well-known spectral lines of He are used for calibrating the diffraction spectrometer. The wave-lengths of the spectral lines of Na, Hg, Cd and Zn are determined using the spectrometer.

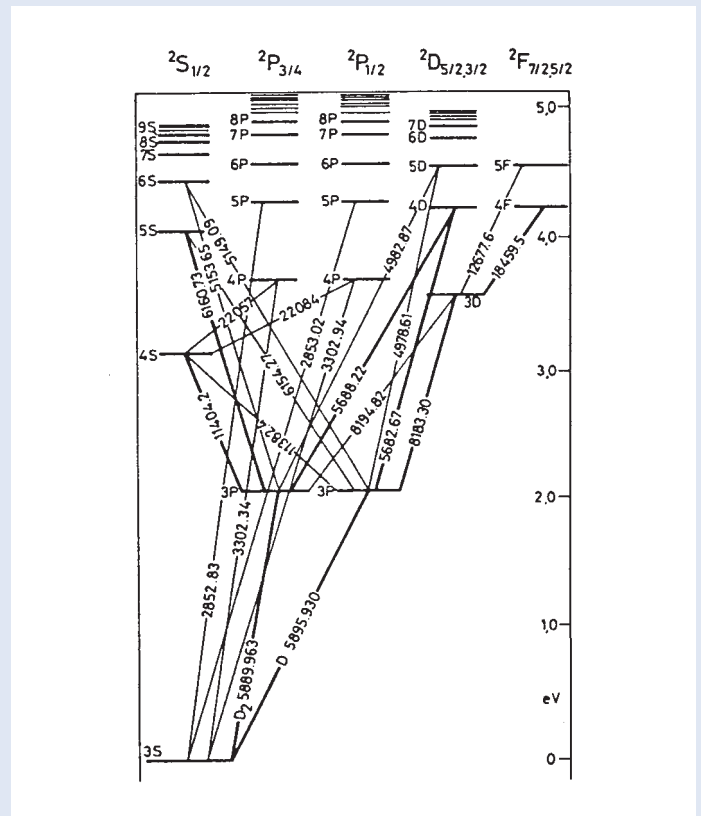
What you need:

Spectrometer/goniometer with verniers	35635.02	1
Diffraction grating, 600 lines/mm	08546.00	1
Spectral lamp He, pico 9 base	08120.03	1
Spectral lamp Na, pico 9 base	08120.07	1
Spectral lamp Hg 100, pico 9 base	08120.14	1
Spectral lamp Cd, pico 9 base	08120.01	1
Spectral lamp Zn, pico 9 base	08120.11	1
Power supply for spectral lamps	13662.97	1
Lamp holder, pico 9, for spectral lamps	08119.00	1
Tripod base -PASS-	02002.55	1

Complete Equipment Set, Manual on CD-ROM included
Fine structure, one-electron and two-electron spectra P2510600

Tasks:

1. Calibration of the spectrometer using the He spectrum, and the determination of the constant of the grating;
2. Determination of the spectrum of Na;
3. Determination of the fine structure splitting.
4. Determination of the most intense spectral lines of Hg, Cd and Zn.



Spectrum of sodium.