

Experimental methods of the condensed matter physics: Seminar topics for Ph.D. students

1. Classical macroscopic methods:

- 1.1. Heat capacity measurements
- 1.2. Resistivity and electric permeability measurements
- 1.3. Measurements of magnetization and magnetic susceptibility
- 1.4. Dilatometric measurements
- 1.5. Diffusion measurements

2. Diffraction methods:

- 2.1. Various arrangements for the X-ray diffraction
- 2.2. What can be learnt by means of the neutron diffraction
- 2.3. Surface studies by the electron diffraction methods
- 2.4. Small angle scattering
- 2.5. Quasi-elastic scattering
- 2.6. Photon correlation methods

3. Atomic scale local methods:

- 3.1. Nuclear magnetic resonance
- 3.2. Perturbed angular correlations
- 3.3. Mössbauer spectroscopy
- 3.4. Muon spin rotation method
- 3.5. Positron annihilation

Each person is requested to choose one of the above topics chosen previously by nobody and notify me (sfrueben@cyf-kr.edu.pl) not later than February 10th 2013. The presentation has to be prepared in English in the style of large international conference invited talk, the latter lasting 35 minutes (45-minute lecture with 10 minutes set aside for a “vivid” discussion).

January 11th 2013

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