

Bonn-Cologne Graduate School of Physics and Astronomy

# Intensive Week: Spectroscopic characterization of the electronic and vibrational structure of surfaces and solids



12. - 16. October 2015,  
Seminar room - II. Phys. Institute, University of Cologne

Lecturers: Prof. Karl Michel (University of Antwerp)

Dr. Alexei Nefedov (Karlsruhe Institute of Technology)

Dr. Luca Petaccia (ELETTRA Sincrotrone, Trieste)

Prof. Jörg Fink (IFW-Dresden)

Prof. Alexander Grüneis (University of Cologne)

Contents of the course:

- Electrons & phonons in solids
- Near edge x-ray absorption spectroscopy
- Photoemission spectroscopy using synchrotron radiation (XPS and ARPES)
- Description of interacting electrons (ARPES data analysis)
- Optical Spectroscopies: Raman, Optical absorption, Photoluminescence

Schedule: Lectures 9<sup>00</sup> - 12<sup>30</sup> (incl. coffee break)

Solving exercises for next day: 13<sup>30</sup> - 15<sup>30</sup>

Exercise classes: 15<sup>30</sup> - 17<sup>00</sup> from Tue-Fri & 9<sup>30</sup> - 11<sup>00</sup> on Sat

Audience: The course is intended for MSc students who want to do a PhD in Spectroscopy/  
Cond. Matt. Physics. The number of participants is limited to 12. Application deadline is  
Sept 1, 2015. Please register with: [grueneis@ph2.uni-koeln.de](mailto:grueneis@ph2.uni-koeln.de)

As a specialized course within the area of specialization of Condensed Matter Physics,  
4 CP will be awarded to successful participants.

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