

"KKR-workshop: new developments, applications, and collaborations"

organized by

H. Ebert (University Munich, Germany) and
W.M. Temmerman (Daresbury Laboratory, GB)
Balazs L. Gyorffy (University of Bristol)

1. Scientific Summary

The KKR method of band structure calculation is a well established versatile tool for investigating the electronic structure of a large variety of systems such as periodic solids, disordered alloys, surfaces and nanostructures. In addition, it supplies a very efficient and powerful basis to describe spectroscopic properties and to deal with many-body effects

The goal of the workshop is to bring together European, American and Japanese researchers involved in developing and applying KKR band-structure methods in order to share recent advances and enhance international collaborations

The topics of the workshop will emphasize recent developments and their applications in a number of different fields:

Treatments of many-body effects based on the KKR method. In particular recent uses of SIC-, GW-, LDA+U- and DMFT-approaches will be reviewed and discussed. Both total energy and spectroscopic problems will be addressed.

Another main topic of the workshop will be such low-dimensional systems as layered structures, wires and clusters. New developments and results in this field will be presented with emphasis on magnetic and transport properties.

The third part of the programme will be devoted to the application of the KKR method to disordered system using the Coherent Potential Approximation (CPA). The interest will focus on order and disorder in metallic alloys and the recently developed non-local CPA scheme and its applications.

Abstract

The workshop will bring together European, American and Japanese researchers developing and applying KKR-band-structure methods. The topics of the workshop will reflect the recent developments and their applications in a number of fields of condensed matter research. These include the treatment of many-body effects, an appropriate description of electron spectroscopy, calculation of electronic and transport properties of low-dimensional and disordered systems.

2. Meeting Programme

The three-day-workshop will be held at the University of Bristol in autumn 2006. The programme will include a number of invited and contributed talks as well as a poster session.

3. Financial Support requested

We estimate the costs to participate the workshop to be around 600 – 700 Euros (travelling ca. 300-400 Euros, accommodation 210 Euros, daily expenses 90 Euros). To support around 11-12 invited speakers, and also some young researchers, we ask for 9000 Euros.