

# Seminar Schedule

Prof. J. Martinek  
(Polish Academy of Sciences)

Date: Sept. 17 (Tue.) 16:00 ~

Room: Seminar room, 2nd floor, prefab bldg

“ Kondo effect in quantum dots coupled to  
ferromagnetic electrodes”

We have analyzed the Kondo effect in a quantum dot (QD) coupled to ferromagnetic electrodes. The new key questions which emerge are: (i) how does the spin-asymmetry affect the effect, (ii) how are the transport properties modified, and (iii) what is the ground state of the system? We analyzed these and related questions using scaling arguments and the equation of motion (EOM) technique. The Kondo effect in transport through a quantum dot coupled to ferromagnetic leads is shown to be modified by the spin polarization of the electrodes and to have qualitatively new features as compared to the situation in a non-magnetic case. In particular, for parallel alignment of the magnetization of the leads, the zero-bias anomaly in the differential conductance is split even in the absence of an external magnetic field. For antiparallel alignment the peaks are split only in the presence of a magnetic field, but show a characteristic asymmetry.

連絡先：  
金属材料研究所  
前川 禎通 (ext.2005)