



575th ASRC Seminar

Date: 13:30 ~ 15:00, 29 October

Location: Meeting room 302, ASRC Building

Speaker: Prof. Stewart E. Barnes
(University of Miami)

Title: Kondo effect and spintronics

K. G Wilson solved the Kondo effect using the numerical renormalisation group. Exact analytical results can be obtained using the Bethe ansatz. The “impurity solver” at the heart of the dynamic mean field theory (DMFT) must be able to handle this problem. In the spintronics context, this effect is identified with magnetic nanoparticles of nano-metric dimensions. It may well be important to the interface between normal metals and ultra-thin ferromagnetic films. Despite its importance, there is no analytic approach nor a useful vulgarization which might describe the complication which arise in spintronics problems.

I will describe an analytic renormalisation method which yields exact results for the compensated and under-compensates Kondo problems along with pictorial description in terms of resonance spin bonds.



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