Kondo Effect

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Introduction

The Kondo effect is an unusual scattering mechanism of conduction electrons in a metal due to magnetic impurities, which contributes a term to the electrical resistivity that increases logarithmically with temperature as the temperature T is lowered. The nice thing about the effect is that it can be used to describe many-body scattering processes from impurities or ions which have low energy quantum mechanical degrees of freedom. Therefore, it became a key concept in condensed matter physics in understanding the behavior of metallic systems with strongly interacting electrons. This talk is divided into three parts, in which I will present the background to the Kondo effect, afer that I will talk about direct observation of the effect with the help of scanning tunneling microscopy (STM) and will finish with an interesting application of the effect in the quantum dots.

References

[1] L. Kouwenhouven and L. Glazman - "Revival of the Kondo effect", *Physics World*, January 2001, 33-38.