



School of Nano Science

IPM Condensed Matter and
Statistical Physics Group

Weekly Seminar

Kondo Effect in Weyl Semimetal: The Emergence of Optimal Doping

Speaker:

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Abstract:

In this talk, we will introduce the Single Impurity Anderson model (SIAM). Although this model seems to be simple, the rich physics of SIAM cannot be underestimated. This model is mapped to Kondo model (s-d model) in strong coupling limit. Next, we will consider Kondo interaction in Weyl semimetal. We will evaluate the Kondo temperature in this system and show that Kondo temperature can be tuned by chemical potential. In addition, by tuning the chemical potential, the bounding energy between the impurity and Weyl quasi-particles passes through a maximum. Therefore, based on our calculation we suggest an optimal doping which corresponds to most probable doping to observe the Kondo effect in Weyl semimetals.

Wednesday, 1 Ordibehesht 95 (20 April, 2016), 2-3 pm

Farmaniyeh seminar room