Massachusetts Institute of Technology
Department of Physics

Condensed Matter Theory Seminar

"Berry curvature dipole in Weyl semimetal materials"

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Abstract: In the band structure of a Weyl semimetal (WSM), the conduction and valence bands cross each linearly through Weyl points that are usually treated as "monopoles" of the Berry curvature. As a second-order response, time-reversal-symmetric WSMs were very recently demonstrated to show strong nonlinear optical effects including an exotic nonlinear Hall effect. This is caused by the non-equilibrium distribution of the Berry curvature, described as the "dipole" of the Berry curvature. In this talk, I will talk about our recent ab initio calculation results on nonlinear response for representative WSM materials TaAs. and $MoTe_2$.

2:00PM
Thursday, August 31, 2017
Duboc (4-331)

Host: Liang Fu