
Seminar

Probing and fluorescence enhancement with single gold nanorods

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In this seminar, I will discuss about our recent results on: (i) luminescence of gold nanorods and (ii) their application in enhancing fluorescence of weak emitters. We measured one-photon-luminescence QY of a gold nanorod to be about 10^{-6} , which is four orders of magnitude larger than the bulk gold. Thanks to their large absorption cross-sections and increased QY, nanorods are used as nano-probes. We also showed that a single gold nanorod is an efficient antenna and can enhance fluorescence of a weak dye (crystal violet) by 1000-fold. The enhancement factor strongly depends on the surface plasmon resonance (SPR) of a nanorod and is maximum when the SPR matches the excitation laser wavelength.

Tuesday, August 12th 2014

1:30 PM (Tea/Coffee at 1:15 PM)

Seminar Hall, TCIS