

Physical Chemistry Seminar

Tuesday,
September 24, 2013

11:00 am

Room 1315
Chemistry Building

Quantum spin sensors for nanoscale sensing



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Host: Professor Randy Goldsmith

Magneto optically active quantum-systems constitute an entirely new class of sensor systems. On the one hand, they can be converted into sensitive magnetic field sensing devices allowing for the detection of single electron spins or the NMR signal of single protons. On the other hand, they constitute highly sensitive sensors for electric fields, pH values or temperature. Prototype examples of such systems are defects in diamond. As such a defect can be engineered into very small nano diamonds, sensors can be used e.g. for intracellular sensing. The talk will describe the physics of the method and system as well as applications for e.g. cellular imaging and bio analytics.

Refreshments will be available prior to the seminar at 10:45 a.m. outside room 1315

Graduate Students may meet with the speaker at 1:00 p.m. in Room 8335