

Colloquium

Magnons: New Platform for Quantum Optics and Quantum Information Science

Girish S Agarwal

Texas A&M University, Texas

In recent times there have been extensive efforts to demonstrate quantum entanglement in macroscopic systems. While it is somewhat simpler to produce heralded entanglement, it is much more difficult to produce deterministic entanglement. Thus the search for newer class of systems that can be used to demonstrate quantum entanglement at macroscopic scale continues. Macroscopic magnetic systems like YIG spheres or Life samples in high quality cavities provide a new platform to study quantum features like entanglement at macroscopic scale, squeezing and other quantum states. Such systems also enable one to study interesting physics at the semi classical level like multi-stability of spin currents, signatures of exceptional points, level attraction and level repulsion. I give an overview of recent developments.

Monday, Dec 16th 2019

4:00 PM (Tea/Coffee at 3:30 PM)

Seminar Hall, TIFR-H