

Open Talk

14th March, 2018

4:00 PM

Boson Hall

SPEAKER

Dr. Shrobona Bagchi

Post Doctoral Research Fellow,
Quantum Technologies, Singapore
(Till 28th February 2018)

TITLE OF THE TALK

Tighter and reverse uncertainty relations

ABSTRACT

In this talk, I present a few novel state-dependent uncertainty relations for product as well as the sum of variances of two incompatible observables. These uncertainty relations are shown to be tighter than the ones in the current literature. Here, I discuss the uncertainty relations of both the Hermitian and Unitary operators. Also, I will present state dependent upper bound to the sum and the product of variances using the reverse Cauchy-Schwarz inequality and the Dunkl- Williams inequality. These results suggest that not only we cannot prepare quantum states for which two incompatible observables can have sharp values, but also we have both, lower and upper limits on the variances of quantum mechanical observables.

HOST FACULTY

Professor Archan S Majumdar

Senior Professor

Department of Astrophysics & Cosmology
S N Bose National Centre for Basic Sciences