



IBS Center for Molecular Spectroscopy and Dynamics

Seminar

■ **SPEAKER**

Dr. Ievgen Arkhipov (Palacky University, Czech Republic)

■ **TITLE**

Complete characterization of non-classicality of Gaussian states of light via intensity moments

■ **ABSTRACT**

Non-classicality of light plays a crucial role in the field of quantum optics. One of the most known forms of non-classicality of light is entanglement, where different modes of quantum fields exhibit quantum correlations which have no analogue in classical physics. Although a lot of progress has been made in the theory of non-classicality of Gaussian states of light, still the problem, how one can directly certify the non-classicality of such states in an experiment with the least available sources, has not been solved yet. We try to solve the latter by proposing an experimental method for complete identification of non-classicality of Gaussian states of light in the whole phase space. That method relies on non-classicality criteria expressed in terms of integrated intensity moments of the optical fields up to the second order, provided that appropriate local coherent displacements are applied to a state under consideration.

■ **DATE AND VENUE**

October 31, 2018 (Wednesday, 5:00 - 6:00 pm)
Seminar Room A(116), KU R&D Center

■ **LANGUAGE**

English

■ **INVITED BY**

Professor Tai Hyun Yoon