Light/atom interaction: From Cooperative Emission to Quantum Vacuum Engineering

By

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Time: 11.00am to 12.00pm
Venue: Hilbert Space (PAP-02-02)
Host: Prof Xiong Qihua

Abstract

The interaction of an electromagnetic field with a single atom is a very well understood problem in quantum electrodynamic. The situation may become more complex if one deals for example with an ensemble of atoms or when the emission of a single atom occurs in presence of quantum interference or modified vacuum mode. During this talk, I will present several recent experiments done at NTU in this context. They have led to a rich variety of phenomena such as cooperative pulse train, geometrical gate and modification of the Casimir-Polder interaction.

Short Biography

David Wilkowski got his PhD degree in 1997 at the university of Lille, France. After a two year postdoctoral position in Pisa, Italy, he get an associate professor position at the university of Nice. Since 2011, he is visiting associate professor at NTU. He is also associated to the Centre for Quantum Technologies and the Centre for Disruptive Photonic Technologies. His area of expertise cover quantum mechanics, atomic physics and photonics.