SEMPARIS – Séminaires en région parisienne

http ://string.lpthe.jussieu.fr/semparis/

Seminaires du LPTM , Universite de Cergy Pontoise

Jeudi 8 Fevrier 2018, 14 :00
LPTM, 4.13 St Martin II
Domaines : physics.optics

Titre : *Quantum simulating many-body phenomena with propagating light*

Orateur : **Pierre Elie Larre (LPTM UCP Cergy Pontoise)**

Résumé : *We consider the propagation of a quantum light field in a cavityless nonlinear medium. In this all-optical platform, the space propagation of the field's envelope may be mapped onto the time evolution of a quantum fluid of interacting photons. The resulting many-body quantum system constitutes a particular class of quantum fluids of light and presently attracts a growing interest as a powerflul tool for quantum simulation. I will present recent theoretical and experimental progresses in this rapidly emerging research field, including investigations on superfluidity, elementary excitations, disorder, quantum quenches, prethermalization, thermalization, and Bose-Einstein condensation.*