

コヒーレント光科学セミナーのご案内

千葉大学分子キラリティー研究センター助教 Adam Valles 氏が 8/6 に本学を訪問されます。

ついては下記の要領でセミナーを開催いたします。

光の空間パターンに関わる現象と量子情報技術への応用についてお話し頂きます。

研究室の研究者、学生の皆様もお誘い合わせのうえ、奮ってご参加下さい。

Coherent Optical Science Seminar on Information Optics

Date: Tuesday, 6 August 2019

Time: 14:50–15:50

Place: Room #803, East 6 Building, UEC

Speaker: Adam Valles, Molecular Chirality Research Center, Chiba University

Title: New methods to transmit and detect high-dimensional spatial states of light

Abstract:

We will discuss how the well-known ghost imaging technique is affected depending on the symmetry of the projected state, and how this method can be used to increase the functionality of a quantum repeater scheme. The entanglement swapping becomes the key ingredient to reconstruct a ghost image using photons from two independent sources, paying the price of a reduced contrast when increasing the transmitted dimensions. However, alternative schemes to detect arbitrarily complex spatial modes in a single run are proposed.

[1] N. Bornman, et al., *New J. Phys.* 21, 073044 (2019).

[2] N. Bornman, et al., *npj Quant. Inf.* 5, 63 (2019).

[3] B. Sephton, et al., *Opt. Lett.* 44, 586 (2019).

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