

Seminar

Friday, 16 October 2009

11 am - Room 701

Professor Bo-Sture [Skagerstam](#)

Department of Physics [Norwegian University of Science and Technology](#),
Trondheim, Norway

What is a Photon – A mind-boggling concept?

Recent developments in electronic and optical technology have made it possible to experimentally realize well localized ONE-photon states.

In this talk, directed to a general audience, I will first remind ourselves about the basic rules of quantum mechanics and then discuss in what sense quantum-mechanical interference of ONE-photon states has been experimentally verified. Then I outline a relativistic and quantum-mechanical description of SINGLE photons and show how the experimentally verified Berry phase of linearly polarized light naturally emerges in such a framework. Geometry, including non-commutative aspects, and quantization are connected in this approach.

The use of t'Hooft-Polyakov non-Abelian magnetic monopoles finds here an amazing application.

If time permits some aspects of the space-time evolution of a localized ONE-photon wave-packet will also briefly be touched upon.

B.-S. Skagerstam, NTNU, Trondheim, Norway

All Welcome

Contact Details

For further information phone 364 2404, or visit our website: www.phys.canterbury.ac.nz