Undergraduate and graduate course on

QUANTUM OPTICS FY8300 Autumn 2005

Introductory Meeting August 25:th, 13.15 in Room E3-128

In quantum optics we study the properties of light and its interaction with matter. In this research branch of modern physics theoretical and experimental methods are very naturally brought together.



A photon gun can be made in real life.



Photon -Photon Correlation experiments at the University of Rochester.

Physical and practical applications of quantum optics will be the main ingredient in this course. Heavy formalism will be avoided as far as possible. The students may be assigned projects during the course. For graduate students these projects may be in accordance with their research interests.

Recommended literature: Lectures notes and selected articles which covers the complete course will be provided. Students are recommended to use **M.O. Scully and M.S. Zubairy, Quantum Optics (Cambridge University Press, 1997)** and/or **R. Loudon, The Quantum Theory of Light (Third Edition, Oxford Science Publications, 2001)** as references.

Interested participants should contact Professor **Bo-Sture Skagerstam** for more information in particularly so if you cannot come to this meeting.

(email: <u>Bo-Sture.Skagerstam@phys.ntnu.no</u> or phone (735) 91866).