

SC**PHYS2610** **Electrodynamique quantique**

[30h] 5 credits

This course is taught in the 1st semester

Teacher(s): Jean-Pierre Antoine, Jean-Marc Gérard
Language: french
Level: 2nd cycle course

Aims

- (1) To provide the basic language used to describe quantum systems with an infinite numbers of degrees of freedom.
- (2) To study in detail quantum electrodynamics, the prototype of a quantum field theory, including renormalization.

Main themes

The contents vary from one year to another, depending on the teacher who gives the course. The main themes are the following:

- Classical electromagnetism
- Canonical quantization and covariant quantization
- QED symmetry
- Mass and charge renormalization
- Feynman rules in QED and applications

Other credits in programs

PHYS22/G Deuxième licence en sciences physiques (5 credits)