PHY1222 Quantum mechanics

[45h+30h exercises] 5 credits

This course is taught in the 2nd semester

Teacher(s): Fabio Maltoni
Language: French
Level: First cycle

Aims

As a complement to the courses PHYS 1111, PHYS 1112 and PHYS 1211 which establish the bases of classical mechanics, special relativity, electromagnetism and wave physics, the aim is to expose the student to the conceptual and physical bases of the quantum description of the microscopic world.

Main themes

Discovery and observation of quantum phenomena in the microscopic world
- The notion of a probability amplitude
- Linear superposition and the Heisenberg principle
- The Schrödinger equation
- Examples of Solutions
- The tunnel effect
- Physical applications
- The Stern-Gerlach experiment
- Quantization of angular momentum.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Prerequisites
- Algebra and Analysis courses of BAC 1
- PHYS 1211

Other credits in programs

PHYS12BA	Deuxième année de bachelier en sciences physiques	(5 credits)	Mandatory