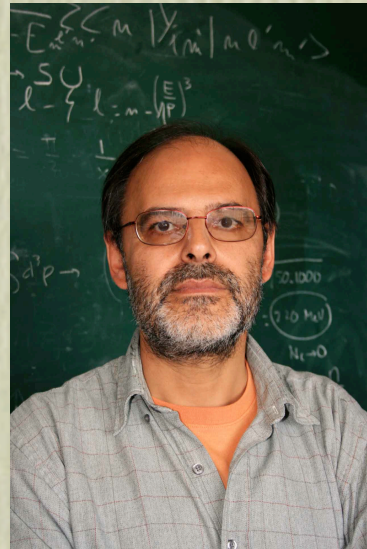


Quantum Field Theory

Instructors:

Joan Soto



Tomeu Fiol



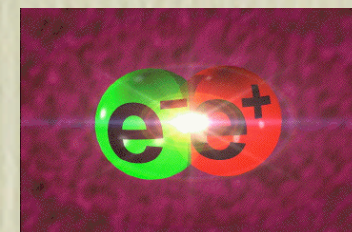
Prerequisites: *“High Energy and Accelerator physics”*

Language of Instruction: English

Schedule: Mon- Wed, 10:20-11:40

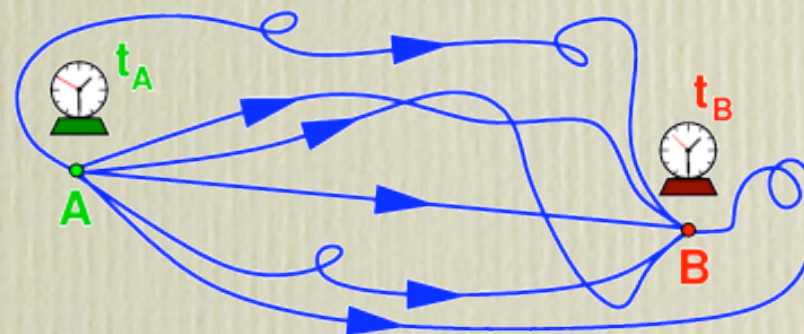
The main idea

- **Quantum Mechanics + Special Relativity:**
need of antiparticles, multiparticle states.



- **Quantum Mechanics + Special Relativity:**
Quantum Field Theory.

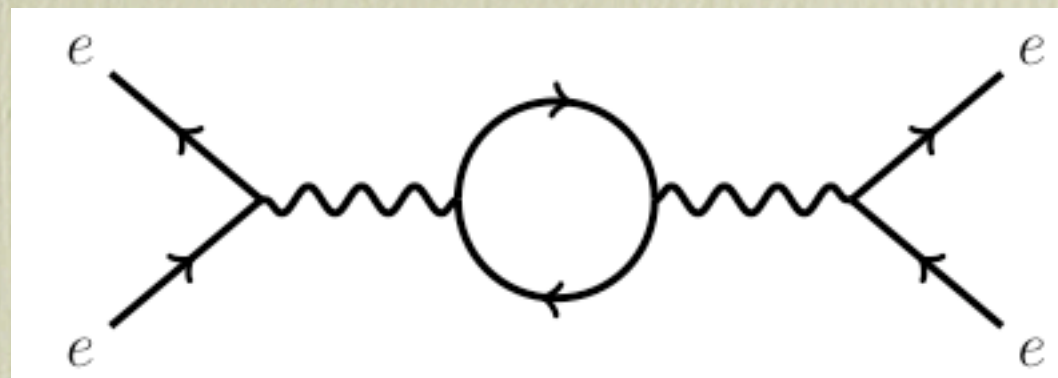
- Various ways to “quantize”: Canonical Quantization, Functional Quantization,....



You will learn...

- How to quantize scalar, fermion and Abelian gauge theories.

- Renormalization.



- Main two examples: $\lambda\phi^4$, QED.

Syllabus

1. Classical Field Theory.

2. Quantization of Free Field Theory.

3. Interacting Field Theory.

4. Path Integral Quantization.

5. Renormalization.

**Joan
Soto**

**Tomeu
Fiol**

Evaluation

There are no exams.

Weekly assignments:

- Homework must reflect your own work.
- To obtain your grade, remove the worst mark and take the average of the remaining ones.

Reevaluation (June): Final Exam

