



UNIMORE
UNIVERSITÀ DEGLI STUDI DI
MODENA E REGGIO EMILIA

Dipartimento di Scienze Fisiche,
Informatiche e Matematiche



FIM-S3 SEMINAR

An overview of developments in “Strong Field QED”

Thursday May 23rd, 2024 – 16.00 (sharp)

S3 Seminar Room, 3rd Floor, Physics building

Remote link: [Teams](#)

Speaker

James P. EDWARDS – University of Plymouth, UK

Abstract

We will summarise research efforts in the area of quantum field theory in strong background fields, with a focus on quantum electrodynamics in a strong electromagnetic background (SFQED). The strong interaction with the background requires it to be treated non-perturbatively, and leads to a theory that contains linear and nonlinear corrections to familiar QED in vacuum. This theory is crucial for experiments at current and upcoming high intensity laser facilities.

We will highlight some simple consequences such as how scattering amplitudes change in the presence of the background, before presenting some more profound results regarding the stability of the quantum vacuum and the breakdown of a perturbative approach to calculating loop corrections.

Hosts: Guido Goldoni and Olindo Corradini

In collaboration with

