

Announcement for summer term 2026

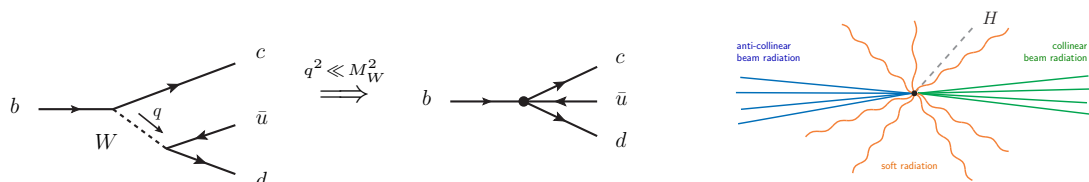
Effective Field Theory

Prof. Dr. Guido Bell, Dr. Sebastian Edlmann

The course provides an introduction to effective-field-theory methods, which are widely used across various areas of particle physics. It begins by presenting the fundamental formalism, including mode separation, power counting and renormalisation-group techniques, and subsequently focuses on selected applications that are particularly relevant to the research activities pursued in the “Color meets Flavor” (CmF) excellence cluster.

Contents:

- Basic concepts of effective field theories
- Euler-Heisenberg theory
- Effective weak interactions
- Chiral perturbation theory
- Soft-collinear effective theory
- Standard Model effective field theory



Schedule:

Mon. 12:30 – 14:00 ENC-B 127 (lecture)

Thu. 08:30 – 10:00 ENC-B 127 (alternating between lecture and tutorial)

Please note that the lecture starts in the second week of term on Mon. 20.4!

The lectures will be broadcasted to the other CmF sites. Please send an email to bell@physik.uni-siegen.de to get access to the virtual classroom.

The lecture is aimed at students of the Master's program in Physics with a specialisation in particle physics. It requires knowledge of advanced topics in quantum field theory, in particular the concepts of renormalisation and the renormalisation group.