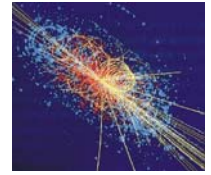




Graduiertenkolleg "Physik an Hadron-Beschleunigern"
Physikalisches Institut



GRADUIERTENKOLLEG BLOCKSEMINAR

VOM 22.-25. SEPTEMBER 2009, JEWEILS 10-12H

IM HÖRSAAL II, PHYSIK HOCHHAUS

A LAYMAN'S GUIDE TO TWO LOOPS

PROF. DR. GIAMPIERO PASSARINO

UNIVERSITA DI TORINO

22.09.2009, 10-12h

Lecture 1:

In this lecture the building blocks for the two-loop renormalization of the Standard Model will be introduced. Two-loop Ward-Slavnov-Taylor identities and the complete set of counterterms needed for two-loop renormalization will be discussed.

23.09.2009, 10-12h

Lecture 2:

In this lecture a renormalization scheme will be introduced, connecting the renormalized quantities to an input parameter set of (pseudo-)experimental data.

25.09.2009, 10-12h

Lecture 3:

In this lecture the set of techniques needed to compute decay rates at the two-loop level will be derived. The main emphasis of the lecture will be on the two Standard Model decays $H \rightarrow \gamma\gamma$ and $H \rightarrow gg$.