



Mini series of lectures
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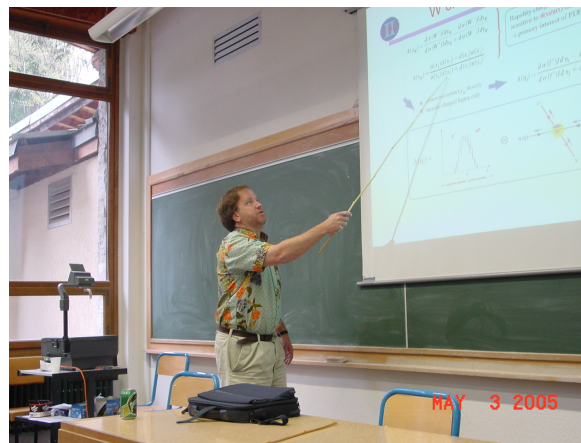


HARD INTERACTIONS OF QUARKS AND GLUONS: A PRIMER FOR LHC PHYSICS

by

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Abstract

In these lectures, I will present a pedagogical treatment of perturbative QCD (pQCD) and its application to LHC physics. I will undertake to provide a reasonably rigorous formalism of hard-scattering of quarks and gluons as well as an intuitive understanding of the physics behind the scattering. I will emphasize the role of logarithmic corrections as well as power counting in α_s in order to understand the behavior of hard-scattering processes. I will re-count our experience from the Tevatron and compare pQCD predictions to the data from the LHC. The lectures are as follows:

1. Monday 25 June, 10.00 am: Introduction to pQCD
2. Tuesday 26 June, 10.00 am: Higher order calculations
3. Wednesday 27 June, 10.00 am: Parton distribution functions
4. Thursday 28 June, 10.00 am: Jet (and photon) reconstruction
5. Friday 29 June, 10.00 am: Comparisons to LHC data (I)
6. Friday 29 June, 2.00 pm: Comparisons to LHC data (II)

Target audience:

high energy physicists and students (PhD & M2 degrees), experimentalists & phenomenologists