

* Special UCLA Nuclear Physics Seminar

“Jet substructure and heavy flavor production at the LHC”

Presented by Dr. Felix Ringer
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We discuss the treatment of inclusive jets and their substructure within Soft Collinear Effective Theory (SCET). The cross section for these observables can be written in a factorized form in terms of hard functions and so-called semi-inclusive jet functions. The semi-inclusive jet functions satisfy renormalization group (RG) equations which take the form of standard timelike DGLAP evolution equations, analogous to collinear fragmentation functions. By solving these RG equations, the resummation of potentially large single logarithms in the jet size parameter $(\alpha_s \ln R)^n$ can be achieved. An important jet substructure observable is the distribution of hadrons inside a reconstructed jet which is known as the jet fragmentation function. In this talk, we consider the in-jet fragmentation of light charged hadrons, heavy flavor mesons and quarkonia. We also discuss the extension of these observables to heavy-ion collisions as they are currently in the focus of the experimental efforts at the LHC.

Location: Knudsen 4-134

Date: Thursday, March 9th, 2017

Time: 12:00pm

Pizza at 11:45am

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