UCLA Nuclear Physics Seminar

"Jet angularity and jet mass at the LHC"

Presented by Mr. Kyle Lee

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Jet substructure measurements have a wide range of important applications in the present day colliders like LHC and RHIC, such as improving reconstruction techniques, increasing sensitivity for new physics beyond SM, discriminating quark and gluon jets, and more. One of the most recent advancements was made in understanding the theoretical framework of measuring jet substructures in the inclusive jet production environment. In this talk, I will discuss the theoretical framework of jet substructure measurements in the semi-inclusive jet production. After discussing briefly some of the substructures that were calculated in the semi-inclusive setting, I will focus on the recent work on jet angularity and jet mass measurements as a particular substructure of interest. I will discuss the factorization, resummations using RG equation of different factorized parts, and nonperturbative shape function. Jet mass has already been measured for single inclusive jet production at the LHC, and we make comparison with the experimental data. On the other hand, jet angularity can be measured as well at the LHC in the future.

Location: Knudsen 4-134
Date: Tuesday, November 7th, 2017
Time: 3:00pm

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