

Santa Fe Jets and Heavy Flavor Workshop

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Precision QCD: working with heavy quarks at high scales & high orders

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Searches for new physics will increasingly depend on identifying deviations from precision Standard Model predictions. At higher energies and higher precision, the heavy quarks play an increasingly prominent role. Recent theoretical developments improve our ability to address the multi-scale problem and properly incorporate heavy quark masses across the full kinematic range. This includes a Hybrid Variable Flavor Number Scheme (H-VFNS) for heavy flavors, and the extension of the ACOT scheme for heavy quark production to N²LO and N³LO. We review these developments with respect to upcoming measurements, and identify areas where additional efforts are required.

Presenter: Prof. OLNESS, Fredrick (SMU)

Session Classification: Session 7