Inclusive Higgs Production at Large Transverse Momentum
HONG ZHANG, ERIC BRAATEN, Ohio State Univ - Columbus — The transverse momentum ($p_T$) distribution of Higgs is important to check our understanding of the Standard Model, and study new physics. The effective field theory for Higgs, obtained by integrating out the top quark, breaks down when $p_T$ is larger than 200 GeV. We calculate the $p_T$ distribution at much larger $p_T$ using the framework of factorization, in which the cross section is expressed as convolutions of hard-scattering cross sections and fragmentation functions, with the leading logarithms of $p_T^2/m_H^2$ resummed to all orders. By separating the scales $m_H$ and $p_T$, the higher order radiative correction can be greatly simplified.