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Final state radiation and (ultra)high energy neutrinos

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Neutrinos are most easily detected via their charged current scattering off nucleons. The final state will then contain electromagnetically charged particles, and is subject to QED radiative corrections. Naively power counting suggests that these effects are small, being only relevant for precision observables. In this talk I will explain why this is not the case, and how final state radiation can impact observables at a level that is comparable to current experimental sensitivities in neutrino telescopes. I will discuss applications/implications for HE and UHE neutrino detection, and suggest implementations for experimental collaborations at the level of an event generator.

Presenter: Prof. PLESTID, Ryan (Caltech)

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