INT Online S@INT seminar: "Effective Field Theory Approach to Neutrinoless Double Beta Decay"

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Tuesday, May 26, 2020 - 10:30am

Zoom

Abstract:

In this talk I will discuss neutrinoless double beta decay and lepton number violation (LNV).

I will describe an end-to-end effective field theory (EFT) framework connecting the possibly very high scale at which LNV originates to the nuclear scale. Such a framework is crucial to assess the discovery potential and model diagnosing power of neutrinoless double beta decay searches. At the high-energy end, the EFT allows one to classify the various sources of LNV. At the low-energy end, the EFT allows one to organize contributions to hadronic and nuclear matrix elements in a systematic expansion, which is the basis to reach controlled uncertainties in the near future. I will discuss recent developments in the EFT approach and illustrate the framework through explicit examples, such as the high-scale seesaw and the TeV scale left-right-symmetric model.

Zoom link will be available via announcement email, or by contacting: stroberg[at]uw.edu.