Contribution ID: **156** Type: **20 minutes talk**

Theoretical Frontiers in Neutrinoless Double-Beta Decay

Friday, 17 December 2021 14:00 (30 minutes)

Neutrinoless double beta (0νββ) decay is a hypothetical process of crucial interest due to its sensitivity both to the neutrino mass scale and to lepton-number violation. The precision of searches for the decay is largely constrained by disagreement between different many-body models for their nuclear matrix elements (NMEs), due in part to the large nuclei involved and the presence of correlated nucleon states. This talk will give an overview of two parallel strands of research: 1) a computational study of the impact of correlated NME errors on future 0νββ searches, via Bayesian methodologies; and 2) an analysis of corrections to a known leading-order contact contribution (in chiral EFT) to the 0νββ transition operator, including from the gluon vacuum condensate and from inelastic intermediate nuclear states.

Could you please give the most relevant category for your talk?

Non-Peturbative QFT

Will you be pre-recording your talk?

No

Are you happy for your talk to be recorded?

Yes

Would you be interested in receiving feedback on your presentation?

Yes

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Session Classification: Full-length talks