



Contribution ID: 369

Type: **Talk**

## Neutrinoless double beta decay from lattice QCD

*Thursday, July 28, 2016 10:15 AM (30 minutes)*

While the discovery of non-zero neutrino masses is one of the most important accomplishments by physicists in the past century, it is still unknown how and in what form these masses arise. Lepton number-violating neutrinoless double beta decay is a natural consequence of Majorana neutrinos and many BSM theories, and several experimental efforts are involved in the search for these processes. Understanding how neutrinoless double beta decay would manifest in nuclear environments is key for understanding any observed signals. In this talk I will present an overview of a set of one- and two-body matrix elements relevant for experimental searches for neutrinoless double beta decay, along with preliminary lattice QCD results.

**Author:** Dr NICHOLSON, Amy (UC Berkeley)

**Co-authors:** WALKER-LOUD, Andre (LBNL); Dr CHANG, Chia Cheng (Lawrence Berkeley National Laboratory); Dr RINALDI, Enrico (LLNL); Dr BERKOWITZ, Evan (LLNL); Dr VRANAS, Pavlos (lnl); Dr KURTH, Thorsten (NERSC)

**Presenter:** Dr NICHOLSON, Amy (UC Berkeley)

**Session Classification:** Plenary Session

**Track Classification:** Hadron Structure