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Ab initio $0\nu\beta\beta$ matrix elements from the valence space IMSRG RAGNAR STROBERG, TRIUMF / Reed College, CHARLIE PAYNE, TRIUMF / UBC, JASON HOLT, TRIUMF — Neutrinoless double beta decay poses two main challenges to nuclear theory: (1) The process has not been observed, and so there is no way to experimentally constrain an empirical effective operator for phenomenological approaches, as is done with e.g. the quenching of g_A or effective charges for E2 transitions. This may be addressed by deriving the transition operator from chiral effective field theory, however this raises the second issue: (2) Nuclei of interest in searches for neutrinoless double beta decay, such as ^{76}Ge and ^{136}Xe, are difficult to treat with the ab initio many-body approaches needed to employ a transition operator derived from chiral effective field theory. I will discuss recent process towards overcoming these two difficulties by using the valence space in-medium similarity renormalization group approach.

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