Contribution ID : **52** Type : **Nuclear Structure**

Adapting the Ab-Initio IMSRG for Open-Shell Atomic Systems

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The nuclear charge distribution and nuclear magnetic moment modify the Coulomb potential in atoms, resulting in shifts in the electronic levels. Thus, atomic spectroscopy provides a way to probe nuclear structure. These measurements, however, require precise calculations of isotope shift factors and hyperfine constants. The IMSRG is an ab-initio technique, successfully used in nuclei, that evolves a many-body Hamiltonian using continuous unitary transformations. I will present a new application of the IMSRG to atomic systems for calculating spectra and isotope shift factors. I will discuss first results and the current status of these calculations as well as what we hope to achieve moving forward.

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Please select: Experiment or Theory

Theory

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