

## Current Status of Very-Large-Basis Hamiltonian Diagonalizations for Nuclear Physics

*Friday, 1 June 2018 17:30 (20 minutes)*

Today there are a plethora of many-body techniques for calculating nuclear wave functions and matrix elements. I will review the status of that reliable workhorse, the interacting shell model, a.k.a. configuration-interaction methods, a.k.a. Hamiltonian diagonalization, and survey its advantages and disadvantages. With modern supercomputers one can tackle dimensions up to about 20 billion! I will discuss prospects for going even further, and what one hopes to learn.

### **E-mail**

cjohnson@sdsu.edu

### **Funding source**

DOE

**Primary author:** Prof. JOHNSON, Calvin (San Diego State University)

**Presenter:** Prof. JOHNSON, Calvin (San Diego State University)

**Session Classification:** Nuclear Forces and Structure, NN Correlations, and Medium Effects

**Track Classification:** NFS