

Abstract Submitted
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Large-Scale Calculations of Single-Particle Properties CARLO
BARBIERI, RIKEN — We review recent large-scale calculations of single-particle
energies and spectroscopic factors around closed shell nuclei in the *sd* and *pf* regions.
Emphasis will be put on the following results:

- The self-consistent Green's functions method employed in the calculations reproduces the benchmark results for the binding energy of ${}^4\text{He}$ with good accuracy. Ab-initio calculations have now been performed up to ${}^{56}\text{Ni}$.
- Preliminary studies of spectroscopic factors, based on the chiral N3LO force, exhibit an asymmetry dependence similar to that observed in heavy-ion knock-out experiments but weaker in magnitude.

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