

## Ab initio calculations of heavy-mass nuclei

### Contenu

The recent developments mainly in nuclear interaction and many-body techniques allow us to compute the properties of finite nuclei. The applicability of the ab initio calculations is expanding to the mass number  $\sim 100$  [1]. However, it becomes difficult to find a reliable result for further heavy nuclei, primarily due to the memory expensive three-nucleon interaction. To overcome the limitation and make the computation of the heavier nuclei feasible, we proposed a new storage scheme of the 3N matrix elements [2], exploiting the feature of widely used normal-ordered two-body approximation. This new scheme enables us to compute the heavier nuclei well beyond the previous limitation. In this talk, I will present some applications for heavy nuclei.

### References

- [1] S. R. Stroberg, J. D. Holt, A. Schwenk, and J. Simonis, Phys. Rev. Lett. 126, 022501 (2021).
- [2] T. Miyagi, S. R. Stroberg, P. Navrátil, K. Hebeler, and J. D. Holt, Phys. Rev. C 105, 014302 (2022).

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