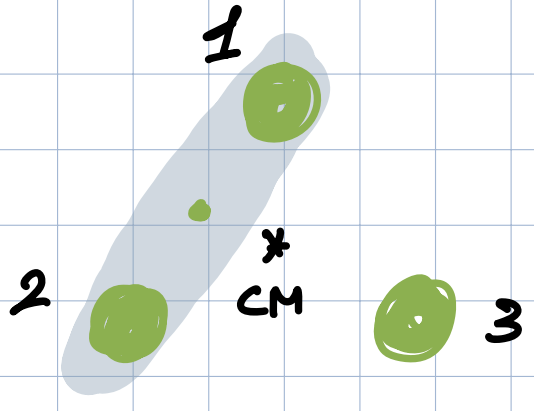
* What are the Conserved quantities ?

- number of particles (occupancy number)
- if no time evolution ⟹ Energy
- Total angular momentum
- Isospin (still learning)

Good Quantum numbers (3 nucleons)

$$|(n\,l\,s\,j\,t\,;N\,\mathcal{L}\,\mathcal{J})\,J\,T\rangle$$



[1] n l
[2] N $\mathcal{L}$ } s j t
[3] $\mathcal{J}$ (relative to 1-2 CM)

Total | J, T

Quantum HO number: ↘
Isospin ↘

$J = L + S$

$= (l + \mathcal{L} + L_3) + (S_{12} + S_3)$

$\mathcal{J}$ (cm ?)

⊛ Things learned:

- VQE method (kind of)
- Mermin Contextuality Square
- Anti-Symmetrization encoding in first and second quantization
- Single-particle Fock state mapping
- Nuclear Shell model with Core (Paper)

Ongoing:

⇒ Helgaker 1st chapter

⇒ Review paper:

Goals before next meeting?