Three-Body EIHH

One starts from $\mathcal{H}^{[3]}(s)$ instead of $\mathcal{H}^{[2]}(s)$

$$\mathcal{H}^{[3]}(s) = \frac{1}{2m}\frac{\hat{K}_A^2}{s} + \underbrace{v_{A,A-1} + v_{A-1,A-2} + v_{A-2,A}}_{v^{[3]}(A, A-1, A-2)}$$

- diagonalize $\mathcal{H}^{[2]}(s)$ in $P+Q$ space of A-body system
- calculate $\omega(s)$
- apply Lee-Suzuki similarity transformation

  $\Rightarrow v^{[3]\text{eff}}$
- solve A-body system using $v^{[3]\text{eff}}$

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wave function is splitted in a 3-body part with Jacobi vectors $\vec{\eta}_{A-1}$, $\vec{\eta}_{A-2}$ with set of quantum numbers $[K_3]$ (e.g., K_3, J_3, T_3) and residual system