- `corrMat.jl`: this program uses the MPO × MPS method to calculate the η-pairing states in the AKLT model, $|\psi_n\rangle = (Q^\dagger)^N|G\rangle$, and then calculate the correlation matrix $\mathcal{M}$ of using pure range-3 operator basis. The resulting kernal $\mathrm{Ker}(\mathcal{M})$, `Aarray` and the corresponding values of $\xi_\alpha$, `Alamvals`, of the first scar state $|\psi_1\rangle$ are then saved to be use in `degeneracy.jl` for recursive calculations; Moreover, we numerically check to make sure $\mathrm{Ker}(\mathcal{M})$ of $|\psi_1\rangle$ remains the same for different $L$.
- `degeneracy.jl`: an implementation of the recursive method in section III of the supplementary material that determines the ground state dengeracy of a projector Hamiltonian recursively.
- `EE.jl`: use the MPO × MPS method to calculate the η-pairing states, calculate the entanglement entropies of all η-pairing states and then get the largest value of EE.
- `./plots/AKLT.py`: plots Fig. 2 in the paper.