

# Finding the semiclassical branches of the wavefunction

When a quantum system exhibits classical-ish behavior...

$$|\Psi(t=0)\rangle \xrightarrow{\text{Time Evolution}} |\Psi(t)\rangle = \sum_i |\Psi_i\rangle$$

Semi-classically evolving state  $\longrightarrow$  Sum of terms that only individually behave semiclassically

How do you find this decomposition?

*We are developing a tensor-network-based algorithm for identifying this decomposition in many-body body simulations.*

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