Initialize the pure wave function $|\psi(t=0)\rangle$

Generate a random number $\epsilon \in [0,1]$

$\delta p_m = \delta t \langle\psi(t)| L_m^\dagger L_m |\psi(t)\rangle$

$\delta p \equiv \sum_{i=0}^{m} \delta p_m$

$\epsilon > \delta p$?

Yes

No

Time evolution by the non-Hermitain Hamiltonian:

$|\psi(t+\delta t)\rangle = \frac{(1-iH_{\text{eff}}\delta t)|\psi(t)\rangle}{\sqrt{1-\delta p}}$

The mth jump operator occurs with probability $\delta p_m$

$\sum_{i=0}^{m-1} \delta p_i \leq p < \sum_{i=0}^{m} \delta p_i$ , then

$|\psi(t+\delta t)\rangle = \frac{L_m|\psi(t)\rangle}{\sqrt{\langle\psi(t)|L_m^\dagger L_m|\psi(t)\rangle}}$

$t = t + \delta t$