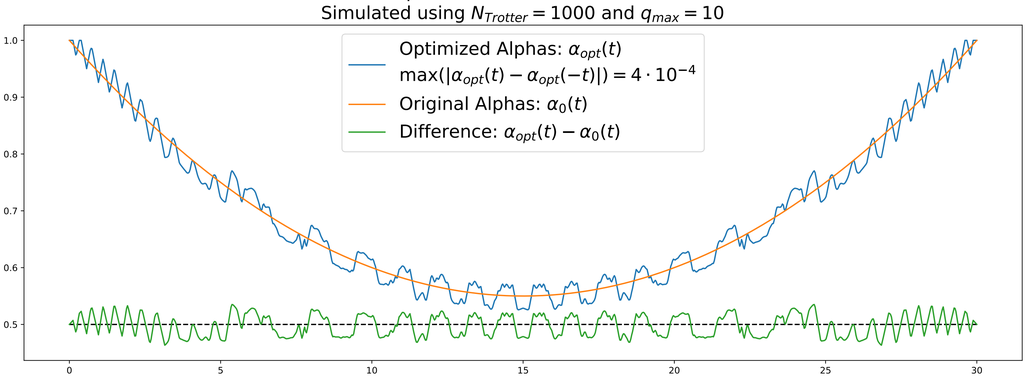
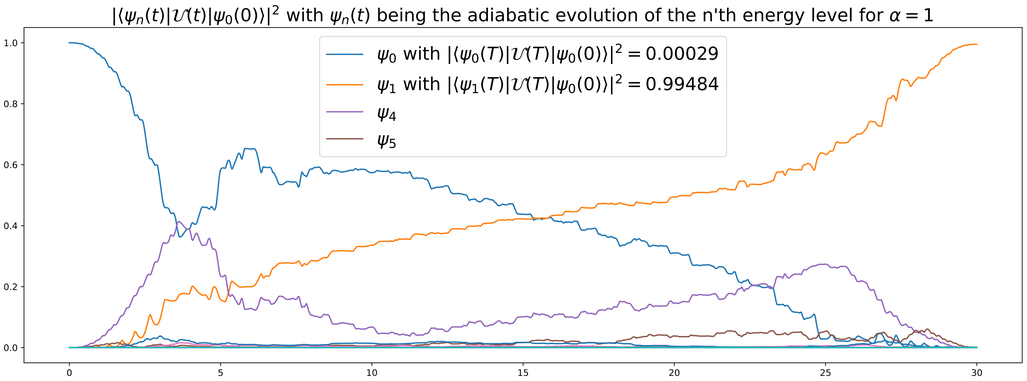
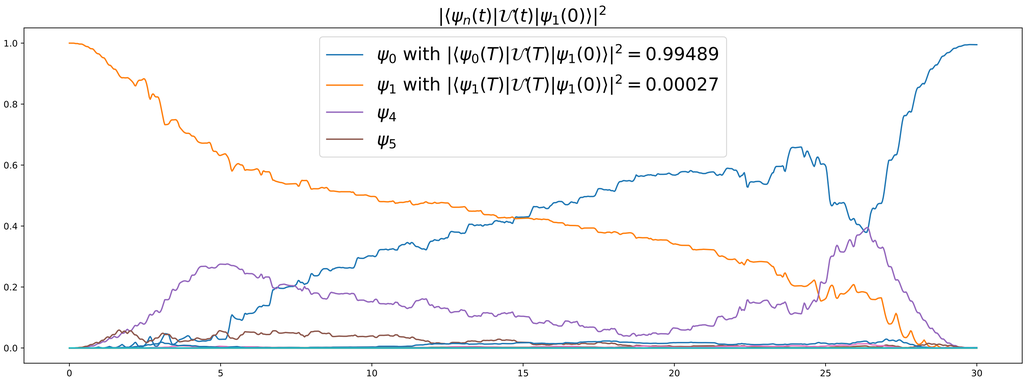
The time dependent α from $t = 0ns$ to $t = T = 30ns$
Simulated using $N_{Trotter} = 1000$ and $q_{max} = 10$



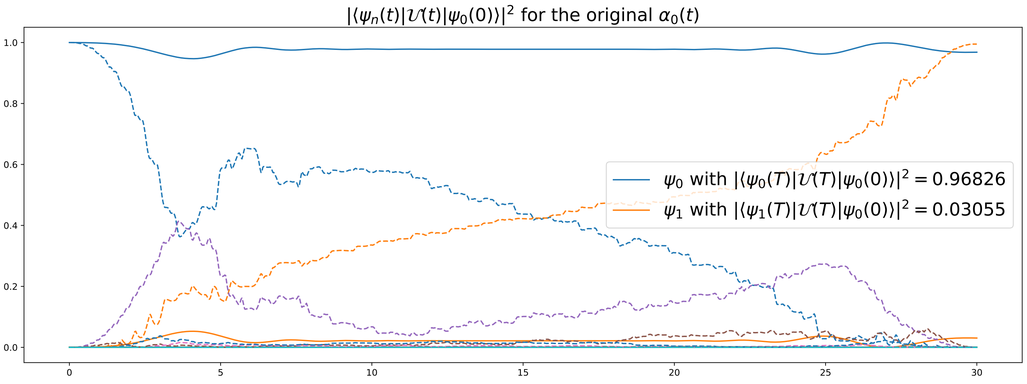
$|\langle\psi_n(t)|\mathcal{U}(t)|\psi_0(0)\rangle|^2$ with $\psi_n(t)$ being the adiabatic evolution of the n'th energy level for $\alpha = 1$



$|\langle\psi_n(t)|\mathcal{U}(t)|\psi_1(0)\rangle|^2$



$|\langle\psi_n(t)|\mathcal{U}(t)|\psi_0(0)\rangle|^2$ for the original $\alpha_0(t)$



$|\langle\psi_n(t)|\mathcal{U}(t)|\psi_1(0)\rangle|^2$