$|\Phi_{AB}\rangle$ $\qquad Q^{AB} + Q^{ab} + 2Q^{Aa}|\tan\alpha| - 2Q^{Ab}$

1. $Q_{AB}(t) = \cos^2\left(\frac{6t}{2}\right)\left[\,|\sin 2\alpha| - 2\sin^2\left(\frac{6t}{2}\right)\cos^2\alpha\,\right]$

2. $Q_{ab}(t) = \sin^2\left(\frac{6t}{2}\right)\left[\,|\sin 2\alpha| - 2\cos^2\left(\frac{6t}{2}\right)\cos^2\alpha\,\right]$

3. $Q_{Ab}(t) = \frac{1}{2}\cos^2\alpha\,|\sin(6t)|\,(\,2|\tan\alpha| - |\sin(6t)|\,)$

$= -\frac{1}{2}\cos^2\alpha\sin^2(6t) + \cos^2\alpha\,|\sin(6t)|\,|\tan\alpha|$

4. $Q_{aB}(t) = Q_{Ab}(t)$

5. $Q_{Aa}(t) = \cos^2\alpha\,|\sin(6t)|$

6. $Q_{Bb}(t) = Q_{Aa}(t)$

Try to eliminate "time dependence"

$Q_{AB} + Q_{ab} = |\sin 2\alpha| - \sin^2(6t)\cos^2\alpha$

$-(Q_{Ab} + Q_{aB}) = +\cos^2\alpha\sin^2(6t) - 2|\tan\alpha|\cos^2\alpha\,|\sin(6t)|$

$Q_{Aa} + Q_{Bb} = 2\cos^2\alpha\,|\sin(6t)| \times |\tan\alpha|$

$+ \qquad 2|\tan\alpha|\cos^2\alpha\,|\sin(6t)|$

$= |\sin 2\alpha|$

Thus "Entanglement Conservation for Ψ_{AB}" becomes:

$$Q_{AB} + Q_{ab} - \underbrace{Q_{Ab} - Q_{aB}}_{-2Q_{AB}} + |\tan\alpha| \underbrace{(Q_{Aa} + Q_{Bb})}_{2Q_{Aa}}$$

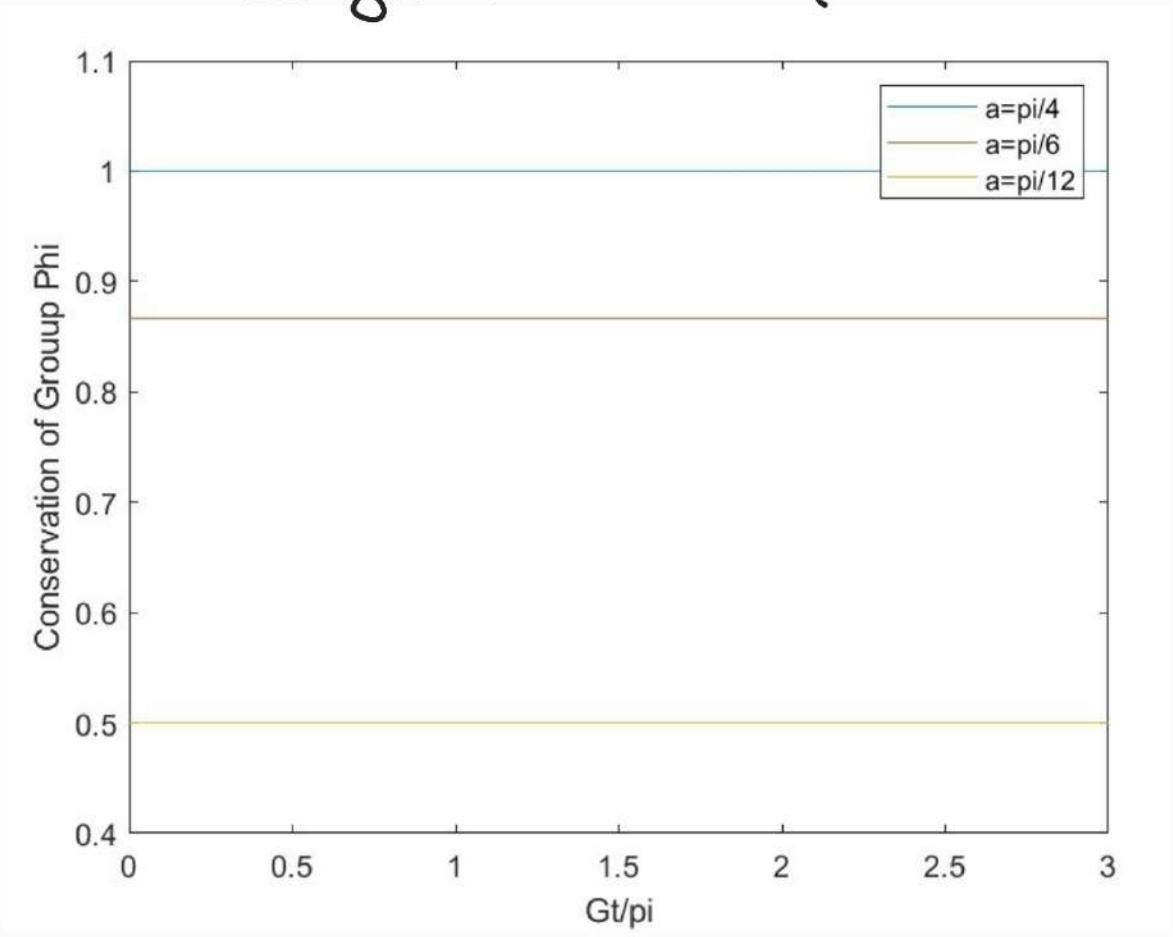
$$Q_{AB} + Q_{ab} - 2Q_{Ab} + 2|\tan\alpha| Q_{Aa} = |\sin 2\alpha|$$

SAME

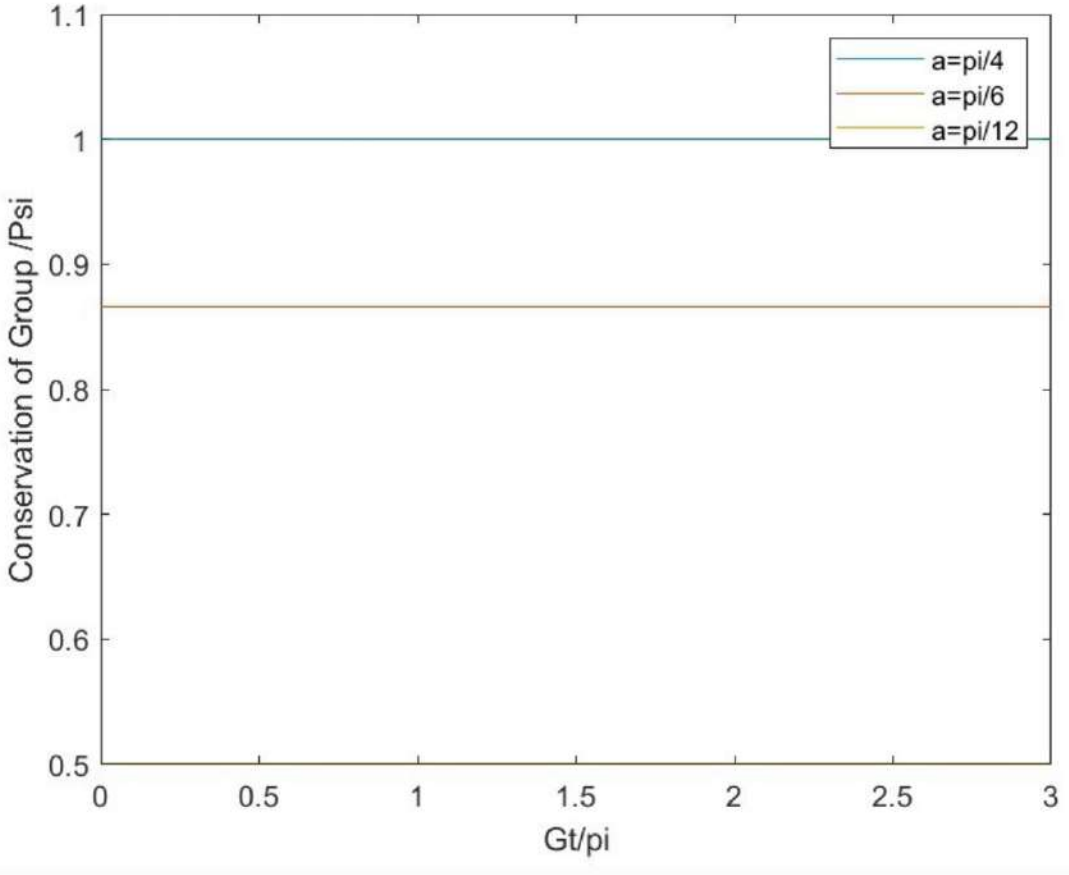
Entanglement Conservation for $|\Psi_{AB}\rangle$:

$$Q_{AB} + Q_{ab} - 2Q_{Ab} + 2Q^{Aa} |\tan\alpha| = |\sin 2\alpha|$$

"Entanglement Conservation of Φ_{AB}"



"Entanglement Conservation of Ψ_{AB}"



→ Entanglement Conservation for Coherent State

→ Spontaneous Emission (history. Einstein)

→ combination of Noise and Jc aiom cavity Model

→ Try with many Modes the same procedure eigen states

→ what's the difference btw 2 articles (they've same Hamiltonian) ? with many modes

→ maybe it comes from the initial state.
