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Research note

## Study of Nash equilibrium by increasing game parameters in 3-player quantum game

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### Abstract

Using the quantum game formalism in 3-player system, we calculate the Nash equilibrium in quantum Prisoners' Dilemma by increasing parameters of unitary operator. Since, the entanglement plays an important role in quantum states of particles quantum game, actually its effect on the obtained results of Nash equilibrium is investigated. It is shown that increasing the parameters enhances the game payoff function.

**Keywords:** quantum game, entanglement, Nash equilibrium, Pareto optimal

For full article, refer to the Persian section