

Influence of Constraint in Parameter Space on Quantum Games

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Abstract: We study the influence of the constraint in the parameter space on quantum games. Decomposing $SU(2)$ operator into product of three rotation operators and controlling one kind of them, we impose a constraint on the parameter space of the players' operator. We find that the constraint can provide a tuner to make the bilateral payoffs equal, so that the mismatch of the players' action at multi-equilibrium could be avoided. We also find that the game exhibits an intriguing structure as a function of the parameter of the controlled operators, which is useful for making game models.

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Key words: quantum games, operation space, constraint

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