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78363-8202. *Quantum Games & Quaternionic Strategies.*

For the quantization of two player, two strategy games by Eisert, Wilkens, and Lewenstein, S. Landsburg has constructed a quaternionic representation of the payoff function using which he classified potential Nash equilibria in these games. Landsburg's construction is based on a specific maximally entangled initial state. It turns out, however, that there is an entire class of maximally entangled states any member of which can be used for the "quaternionization" of these games. Here, we present a generalization of Landsburg's construction by using an arbitrary representative from the class of maximally entangled states and classify the potential Nash equilibria in the corresponding two player, two strategy games. (Received August 22, 2011)