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**Quan-Fang Wang\*** (quanfangwang@yahoo.co.jp), Mechanical and Automation Engineering,  
The Chinese University of Hong Kong, Shatin, N. T., Hong Kong, Hong Kong. *High dimension  
control for quantum system.*

It is interesting for us to consider the approach of controlling quantum system in high dimension(2D,3D). This presentation is try to deal with quantum optimal control theory for the poly-particles system described by nonlinear Schrodinger equation. Especially, the computational approximate for simulation of controlling process will be executed in high dimension spatial cases.

The illustration of quantum control theory by the efficient numerical demonstration is shown for quantum systems with different physical parameters.

Hope wide application would be utilized to control quantum systems in real laboratory experiments. (Received May 29, 2011)