

# 國立中山大學應用數學系

## 學術演講

講者：李志光教授

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講題：Construction of Quantum States with Special  
Properties

時間：2016/6/21（星期二）14:10 ~ 15:00

地點：理學院四樓理 SC 4011 室

茶會：15:00 於理 SC 4010 室（系辦公室）

### 摘要

We use projection methods to construct (global) quantum states with prescribed reduced (marginal) states, and possibly with some special properties such as having specific eigenvalues, having specific rank and extreme von Neumann or Rényi entropy. Using convex analysis, optimization techniques on matrix manifolds, we obtain algorithms to solve the problem. Matlab programs are written based on these algorithms and numerical examples are illustrated. The numerical results reveal new patterns leading to new insights and research problems on the topic.

Co-authors: Xuefeng Duan, Diane Pelejo

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