# 國立陽明交通大學應用數學系
# 學術演講公告

主講人：鍾佳民教授(陽明交大 電物系)

講　　題：Quantum-inspired algorithm--Solving Gross-Pitaevskii

Equation using Quantic Tensor Train

時　　間：114 年 9 月 23 日(星期二) 下午 14:00 –15:00

地　　點：(光復校區) 科學一館 213 室

## Abstract

The Quantic Tensor Train (QTT) is a tensor network framework that provides highly compact representations of high-dimensional functions and operators. This makes it a promising tool for tackling nonlinear partial differential equations that are otherwise computationally demanding. In this work, we explore the use of QTT for solving the Gross–Pitaevskii equation (GPE), a fundamental nonlinear model describing Bose–Einstein condensates and related quantum systems. By using QTT, we significantly reduce the computational complexity compared to conventional discretization methods, achieving efficient and scalable solutions. Our results demonstrate the potential of QTT to extend tensor network techniques beyond linear problems, opening the door to new applications in nonlinear quantum dynamics and many-body physics.

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