

## **Mourao 研究生系列讲座**

### **Minicourse on Quantum Mechanics versus Complex Geometry**

**Lecturer:** Prof. Dr. Jose Mourao

(Instituto Superior Técnico, Lisbon)

**Coordinator:** Prof. Yongge Ma (Dept of Physics, Beijing Normal University)

#### **Schedule**

8 Dec (Tue.) 1:30pm-3:10pm, 102 Lecture Hall No.4 (教四楼 102):

Lecture 1 - Dirac program of quantization and no go theorems.

Lecture 2 - Introduction to geometric quantization. Prequantization.

10 Dec (Thu.) 10:00am-11:40am, 114 Lecture Hall No.4 (教四楼 114):

Lecture 3 - Quantization and choice of polarization as a choice of representation.

Lecture 4 – Topics of Kahler geometry. Infinite dimensional space of quantizations/polarizations of finite dimensional systems. Complex symplectomorphisms and geometry in the space of quantizations.

11 Dec (Fri.) 1:30pm-3:10pm, 115 Lecture Hall No.4 (教四楼 115):

Lecture 5 – Completely integrable systems with a global, effective Hamiltonian action of a half-dimensional compact torus. Symplectic toric manifolds and toric Kahler geometry.

Lecture 6 – Bi-invariant Kahler geometry on complexifications of compact Lie groups.

14 Dec (Mon.) 10:00am-11:40am, 115 Lecture Hall No.4 (教四楼 115):

Lecture 7 – Quantum dynamics in complex time I - Equivalence and nonequivalence of quantizations. Generalized coherent state transforms and Kostant-Souriau-Heisenberg maps.

Lecture 8 - Quantum dynamics in complex time II – open quantum systems.

17 Dec (Thu.) 10:30am-11:40am, 106 Physics Building (物理楼 106):

Colloquium: Quantum Mechanics and Complex Observables

Wecome to attend it !