Course: CHM1478, Quantum Mechanics for Physical Chemists

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Web: CHM1478 maintains a Quercus web space which archives a variety of course-related information including: grades, class announcements, lecture and lab materials, contact information and links to outside resources. In addition, class emails will periodically be sent via Quercus. To receive these emails, you must have a valid "utoronto.ca" email account registered with ROSI.

Office: LM420C

Lectures: LM 429, Wednesday 14:00–16:00

Recommended Texts: 1) D. J. Tannor, Introduction to Quantum Mechanics: A Time-Dependent Perspective; 2) L. D. Landau, E. M. Lifshitz, Quantum Mechanics, Vol 3; 3) D. J. Griffiths, Introduction to Quantum Mechanics; 4) A. Messia, Quantum Mechanics, vol 1 & 2.

Marking Scheme: homework 80% (starting Sept 8, will appear @Quercus and due the next Wed), some assignments will require Matlab (or any other programing environment), presentation of an advanced topic 20%

Course Description: This core course in Quantum Mechanics covers the basic Hilbert space formulation of Quantum Mechanics as well as operator algebra, representations, the Heisenberg and Schrodinger pictures, and the von-Neumann equation for density matrix. The list of other topics is as follows.

•Basic formalism of quantum mechanics: time-independent and time-dependent pictures

•Variational, perturbational, and semi-classical approaches

•Symmetry, representation theory

•Identical particles, second quantization

•Different boundary conditions: open and periodic systems