休斯顿大学Kouri教授学术报告

报告题目： The Long Reach of Heisenberg

时间：2018年6月14日 15:30-16:30

地点：中心会议室

主讲人：Donald Kouri 教授

主讲人介绍

Prof. Donald Kouri is the Director of University of Houston Institute for Digital Informatics and Analysis, Professor of Department of Chemistry of University of Houston. He got B.A. in Chemistry from Oklahoma Baptist University in 1960, and received Ph.D in Physical Chemistry from University Wisconsin in 1965. He completed a Postdoc at University of Colorado in 1966. Prof. Kouri served as Vice-Chair and Chair of the Few Body Gordon Research Conference. He serves as editorial boards of many journals such as Theoretical Chemistry Accounts, Computer Physics Communications, Journal of Theoretical and Computational Chemistry etc. He got many rewards like Guggenheim Fellow, Sloan Fellow etc.

Prof. Kouri focuses on the fundamentals of quantum theory and has published over 144 articles. Of particular interest is a new generalization of the Heisenberg uncertainty principle, so as to include the idea of multiresolution analysis. This is important for nonlinear optics (e.g., preparation of optimal coherent light pulses), Bose-Einstein condensation and confinement of material particles, quantum computing, and many other areas.

报告摘要

The Heisenberg uncertainty principle is at the heart of quantum mechanics, which forms the most fundamental basis for understanding how atoms and molecules react, and transfer energy, momentum and atoms/molecular fragments. In this talk, he will describe how this principle is responsible for the differences between Newtonian (classical) mechanics and quantum mechanics. He will also explore some of the interesting consequences of the principle that lead to mathematical structures that subsume all sorts of phenomena important in classical physics, chemistry, mathematics, engineering, medicine and the transfer and analysis of information.

In this talk he will try to show students how Heisenberg's uncertainty principle leads to Fourier analysis which is relevant to all sciences, engineering, medicine, information transfer and analysis. In doing this, he also obtains a complete generalization of Fourier analysis that is particularly suited to the analysis of "chirp signals", which are in the forefront of ultrafast spectroscopies, seismic physics, medicine, all the way to gravitational waves.

欢迎各位参加！

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