



Department of Mathematics

Y.C. Wong Visiting Lectures

Generalized Geometry and Applications

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Abstract

Geometry is one of the pillars of both ancient and modern mathematics, and plays a vital role in many scientific applications, in particular in physics. In the past two decades it has become clear, mainly by studying duality symmetries in String Theory, that there exists an important generalization of classical differential geometry. Recently, the axioms for this "Generalized Geometry" were introduced by Hitchin and his students. In these lectures I will explain the basics behind Generalized Geometry. Generalized Geometry cuts through many disciplines in Mathematics, such as symplectic geometry, complex geometry, differential geometry and algebra. The lectures will therefore be interesting to a broad audience of mathematicians and mathematical physicists. The lectures will be presented at an elementary level and will be suitable for postgraduate students. Topics to be covered include Lie and Courant algebroids, generalized complex manifolds, generalized Kahler manifolds, etc, as well as applications, mostly in the context of String Theory.

Lecture 1	February 28, 2008 (Thursday)	14:00 – 15:00
Lecture 2	February 29, 2008 (Friday)	14:00 – 15:00
Lecture 3	March 6, 2008 (Thursday)	14:00 – 15:00
Lecture 4	March 7, 2008 (Friday)	14:00 – 15:00
Lecture 5	March 12, 2008 (Wednesday)	14:00 – 15:00

All lectures will be given in Room 517, Meng Wah Complex, HKU

Light refreshments will be available 15 minutes prior to each lecture

All are welcome