THE UNIVERSITY　　　　**OF HONG KONG**

Institute of Mathematical Research
Department of Mathematics

GEOMETRY SEMINAR

The Type IIA flow and its geometric applications

Dr. Teng Fei

Rutgers University, Newark

Abstract

The equations of flux compactifications of Type IIA superstrings were written down by Tomasiello and Tseng-Yau. To study these equations, we introduce a natural geometric flow called Type IIA flow on symplectic Calabi-Yau 6-manifolds. We prove the wellposedness of this flow and establish the basic estimates. We show that the Type IIA flow can be applied to find optimal almost complex structures on certain symplectic manifolds. We also prove its dynamical stability and apply it to prove a stability result about symplectic deformations of Calabi-Yau manifolds. This is based on joint work with Phong, Picard and Zhang.

Date:	October 25, 2023 (Wednesday)
Time:	4:30 – 5:30pm
Venue:	Rm 210, Run Run Shaw Bldg., HKU

All are welcome