

國立中山大學應用數學系

學術演講

講者：邱聖夫 博士 (國立清華大學)

講題：Symplectic C^0 Rigidity via Topological Data Analysis

時間：2025/10/23 (Thursday) 14:10 ~ 15:00

地點：理 SC 4009-1 教室

茶會：13:45

Abstract

Symplectic geometry studies the geometric problems initially arising from physical dynamics which include classical and quantum mechanics, optics, and thermodynamics. Mathematically speaking, symplectic geometry concerns about geometric properties that are invariant under transformations that preserve the physical structure and one often regards the field as a branch of differential geometry. Recently, there is an increasing interest in studying the properties that are surprisingly preserved under C^0 perturbations, and our aim is to apply topological data analysis methods to capture their interactions with physical dynamics beyond the underlying differential calculus structure.

The first part of this talk will be an introduction of symplectic geometry and its C^0 developments. In the second part, I will discuss a hierarchy of C^0 -rigidities that generalizes the classical C^0 rigidity of symplectic transformations. Thirdly, I will apply sheaf-theoretic topological data analysis techniques to supply a new characterization of C^0 -coisotropic set and show that our notion improves the whole above mentioned hierarchy of rigidities. This is a joint work in preparation with Tomohiro Asano (Kyoto Univ.) and Yuichi Ike (Tokyo Univ.).

敬 請 公 告 ！ 歡 迎 參 加 ！

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