

國立清華大學數學系學術演講

NTHU MATH Colloquium

講題 Some Geometric Invariants in the Heisenberg Groups

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時間 2021.11.22 (Mon.) 16:00 – 17:00

地點 第三綜合大樓**2樓 Room 201** (請同學配戴口罩)

茶會 15:30, Room 707

Abstract

The n -dimensional Heisenberg group is an example in a variety of many geometric structures: Riemannian, Sub-Riemannian, Lie groups, and contact geometry. In addition, the Heisenberg group is also regarded as a standard model of pseudo-hermitian manifolds. In this talk, we will take the pseudo-hermitian approach of the group and present our recent works. Several analogous results from Integral Geometry will be shown, including the containment problems, Crofton's formula, and Cauchy surface area formula with some applications to Image Processing. Those results may reveal a similar feature that the Heisenberg groups to pseudo-hermitian manifolds is an analogy of the Euclidean spaces to Riemannian manifolds.