

GRADUATE STUDENT SEMINAR

Guest Speaker: Minh Chieu Tran

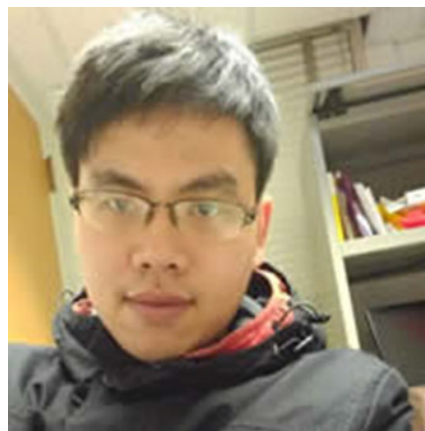
University of Notre Dame

Date: Monday, September 7, 2020

Time: 5:15 PM

Location: Zoom

Zoom URL: <https://notredame.zoom.us/j/95815357423>



Lecture Title:

Structures of sets with minimum measure growth

Abstract

Let G be a connected unimodular group equipped with a Haar measure μ_G , and suppose A, B are nonempty measurable subsets of G . An inequality by Kemperman gives us

$$\mu_G(AB) \geq \min\{\mu_G(A) + \mu_G(B), \mu_G(G)\}.$$

We obtain characterizations of groups G , and sets A, B , such that the equality holds. This is the first general result in nonabelian continuous settings and, at the same time, provides a complete answer to a question asked by Kemperman in 1964. We also get near equality versions of the above result with uniform linear bound for connected compact groups, confirming conjectures made by Griesmer and by Tao. As an application, we obtain a measure expansion result for connected compact simple Lie groups. (Joint work with Yifan Jing)

Please sign up to attend the seminar at: <https://forms.gle/3aG8qNeWWX3dUrLW7>