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Department of Mathematics and Computer Science

Colloquium

1/2 estimate for global Newlander-Nirenberg theorem on strongly pseudoconvex domains

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Abstract:

Given a formally integrable almost complex structure X defined on the closure of a bounded domain $D \subset \mathbb{C}^n$, and provided that X is sufficiently close to the standard complex structure, the global Newlander-Nirenberg problem asks whether there exists a global diffeomorphism defined on $\bar{D}$ that transforms X into the standard complex structure, under certain geometric and regularity assumptions on D. In this talk, I will present my recent result on the 1/2 estimate for global Newlander-Nirenberg problem on strongly pseudoconvex domains. The main ingredients in our proof are the construction of Moser-type smoothing operators on bounded Lipschitz domains using Littlewood-Paley theory and a convergence scheme of KAM type.

4 – 5pm, Wednesday, Feburary 22, 2023

Room 204, Smith Hall