Kleines Seminar, RCOA at ECNU

学年	2021 年春季学期，2021 年 3 月 1 日至 2021 年 7 月 4 日，共 18 周		
地点	线上腾讯会议 ID 329 8591 7934 及线下（暂定）	时间	周五上午 10 点

报告者/时间	报告内容
韦斯翰 3 月 19 日	Title: Classification of minimal dynamical systems and approximate conjugacy Abstract: Let (X,α) and (X,β) be two minimal dynamical systems on a compact metric space X. In 1995, Jun Tomiyama shows that (X,α) and (X,β) are flip conjugate if and only if there is a unital isomorphism between the crossed products $C^*(X,\alpha)$ and $C^*(X,\beta)$ keeping their masa. On the other hand, inheriting the philosophy of Tomiyama's classification theorem, H. Lin and H. Matui defined the concepts of approximate K-conjugacy and C^*-strongly approximate conjugacy in 2004, and showed that for Cantor minimal systems, the approximate K-conjugacy and C^*-strongly approximately conjugacy coincide with the strong orbit equivalence defined by T. Giordano, F. Putnam and C. Skau. Furthermore, it is also equivalent to a K-version of Tomiyama's commutative diagram. In quick succession, this is also shown to be the case for certain kind of minimal rigid dynamical systems on the product of the Cantor space and the circle by H. Lin and H. Matui, and on the product of the Cantor space and the torus by W. Sun. Therefore, in a paper of H. Lin and N. Phillips, H. Lin asked that, what additional hypothesis are required for α and β (and of course, X_1

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and X_2) such that the approximate K-conjugacy and C^*-strongly approximate conjugacy are equivalent?

In this talk, we define the Lipschitz-minimal-property (LMP) for a compact metric space. Then upon applying the technique developed by S. Glasner and B. Weiss, for proving the existence of skew minimal products, we answer the question of H. Lin by showing that, for any Cantor minimal system (K, α) and any infinite finite-dimensional connected finite CW-complex Ω with the LMP, there is an uncountable class $R_0(\alpha)$ of minimal skew products on $K \times \Omega$ such that, with the additional condition that $K_0\left(C\left(\Omega\right)\right)$ is torsion free and $K_1\left(C\left(\Omega\right)\right) = 0$, for any two minimal rigid homeomorphisms $\alpha \in R_0(\alpha)$ and $\beta \in R_0(\beta)$, the approximate K-conjugacy and the C^*-strongly approximate conjugacy coincide, which are also equivalent to the K-version of Tomiyama's commutative diagram. This includes the cases that Ω is an even-dimensional sphere S^{2n} or a product of even dimensional spheres of different dimensions. However, note that the even-dimensional spheres admit no minimal homeomorphism.

The case that $K_1\left(C\left(\Omega\right)\right)$ is not necessarily trivial is also considered, where we get a corresponding classification result. This covers the situation that Ω=circle considered by H. Lin and that Ω=torus considered by W. Sun.

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报告者/时间	报告内容
Valerio Proietti 1/5: 3 月 26 日 2/5：4 月 2 日 3/5：4 月 23 日 4/5：5 月 14 日 5/(5+x): 5 月 21 日 6/(5+2): 6 月 4 日	Title: On the K-theory of groupoids acting properly Tentative plan for 5 lectures: 1. Preliminaries on (proper) groupoids, C*-dynamical systems and equivalence theorems 2. Induction-Restriction adjunction in KK-theory 3. Basics on triangulated categories, pairs of complementary subcategories and their relevance in K-theory 4. The Baum-Cones conjecture and the Dirac-dual-Dirac method 5. Applications

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报告者/时间	报告内容
王若飞 4 月 9 日	Distance between unitary orbits
郭　亮 4 月 16 日	On warped products of CAT(0) spaces; Warped products of metric spaces of curvature bounded from above, Chien-Hsiung Chen
罗　政 5 月 7 日	The coarse geometric Novikov conjecture for spaces of non-positive curved manifolds
张亚洲 5 月 28 日	Infinitely presented small cancellation groups have the Haagerup property, G. Arzhantseva, D. Osajda
王子竞 6 月 18 日	Atiyah's Γ-index theorem, J. Roe
张超华 7 月 2 日	A note on the relative index theorem, J. Roe

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