

המחלקה למתמטיקה, בן-גוריון

קולוקוויום

ביום שלישי, 31 במאי, 2016

בשעה 14:30 – 15:30

ב-101 Math

ההרצאה

The mean dimension of a homeomorphism and the radius of comparison of C^* -algebras

חינתן על-ידי

N. Christopher Phillips (University of Oregon)

תקציר: We describe a striking relation conjectured between “dimensions” of C^* -algebras and topological dynamics. Let X be a compact metric space, and let \mathcal{H} be a nontrivial minimal homeomorphism on X . Let $\mathit{mdim}(\mathcal{H})$ denote the mean dimension of \mathcal{H} . We show that $\mathit{mdim}(\mathcal{H})$ is the smallest integer n such that there is a unital simple C^* -algebra A of real rank n such that $A \otimes C(X, \mathcal{H})$ is isomorphic to a direct sum of n copies of A . This result is a special case of a more general theorem concerning the radius of comparison of C^* -algebras. The radius of comparison of a C^* -algebra A is the smallest integer n such that every element $a \in A$ can be written as a sum of n elements each of which is a sum of a self-adjoint element and a nilpotent element. We show that the radius of comparison of $A \otimes C(X, \mathcal{H})$ is $\mathit{mdim}(\mathcal{H})$. This result is a special case of a more general theorem concerning the radius of comparison of C^* -algebras. We also discuss the relationship between the radius of comparison and the mean dimension of a homeomorphism.

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