

Research topics - Ayudas Intro-SO 2021

Coarse geometry and operator algebras

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Abstract

This project will continue exploring some of the ideas explained in the JAE-school on *Coarse geometry, Groups and Operator Algebras* that will take place from June 21 - June 25, 2021 during the JAE-School of Mathematics.

<https://www.icmat.es/events/jae-school/programme2021/>

In particular, we will relate the properties of discrete metric spaces (X, d) with bounded geometry with operator algebraic properties of the so-called uniform Roe algebra associated with X . This algebra is generated by operators of bounded propagation in the Hilbert space $\ell_2(X)$ and carries a lot of interesting coarse geometric information of the space.

REFERENCES

1. P.W. Nowak and G. Yu, *Large Scale Geometry*, European Mathematical Society, Zürich, 2012.
2. J. Roe, *Lectures on coarse geometry*, American Mathematical Society, Providence, Rhode Island, 2003.
3. J. Roe, *What is a coarse space*, Notices of the AMS **53** (2006) 668-669.