UNIVERSIDAD DE GRANADA

Departamento de
Análisis Matemático

Analisis funcional C*-Algebras y Teoría de operadores

Investigadores

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Memorias

- Memoria Académica 2014-2015
- Memoria Académica 2015-2016
- Memoria Académica 2016-2017 (pdf)
- Memoria Académica 2017-2018
- Memoria Académica 2018-2019
- Memoria Académica 2019-2020
- Memoria Académica 2021-2022 (pdf)

Research Lines

Mathematical Subject Classification - MSC2010

- 17 Nonassociative rings and algebras
- 17C65 Jordan structures on Banach spaces and algebras
- 41A50 Best approximation, Chebyshev systems

- 41A52 Uniqueness of best approximation
- 46 Functional analysis
- 46B08 Ultraproduct techniques in Banach space theory
- 46B20 Geometry and structure of normed linear spaces
- 46E15 Banach spaces of continuous, differentiable or analytic functions
- 46G20 Infinite-dimensional holomorphy
- 46H Topological algebras, normed rings and algebras, Banach algebras
- 46L Selfadjoint operator algebras (C*-algebras, von Neumann (W*-) algebras, etc.)
- 46L57 Derivations, dissipations and positive semigroups in C∗-algebras
- 47 Operator theory
- 47B Special classes of linear operators
- 47B33 Composition operators
- 47B Special classes of linear operators
- 47B48 Operators on Banach algebras
- 47B49 Transformers, preservers (operators on spaces of operators)
- 81 Quantum theory
- 81Q12 Non-selfadjoint operator theory in quantum theory

The so-called preservers problems appear as a main topic of study in many different branches of mathematics.

These problems concern with the determination of those maps between banach spaces, banach algebras or other analytic structures, preserving a property which is determined by the geometric structure of the underlying banach space, or by a property which is given by the algebraic structure. There is a wide range of deep and current problems on maps preserving certain geometric or algebraic. The most significant goals in this project can be briefly resumed in the next items:

- Extension of surjective isometries between the unit spheres of von Neumann algebras (i.e. Tingley's problem for von Neumann algebras).
- Tingley's problem for C*-algebras, p-Schatten-von Neumann spaces, preduals of von Neumann algebras, non-commutative Lp- spaces, etc.
- The Mazur-Ulam property for C(K) spaces.
- The Mazur-Ulam property for finite dimensional C*-algebras, finite von

Neumann algebras, trace class operators, von Neumann algebras, preduals of von Neumann algebras.

- Tingley´s problem and Mazur-Ulam property for other operator algebras (Lipschitz algebras, uniform algebras, etc.) and spaces (Hardy spaces, holomorphic functions).
- (Weak-)2-local isometries on uniform algebras.
- (Weak-)2-local derivations on von Neumann algebras and C*-algebras.
- Multiplicativity of (weak-)2-local *-homomorphisms on a C*-algebra.
- (Weak-)2-local isometries on Lipschitz algebras.
- (Weak-)2-local isometries on other operator algebras and on other operator spaces (like trace class operators, p-Schatten-von Neumann classes, non-commutative Lp spaces, etc.).
- Automatic continuity of linear maps which are derivations, or triple derivations, or homomorphisms at zero or at the unit element, or at a unitary element.
- Automatic continuity of generalized derivations.
- Connections with those (continuous) linear maps preserving orthogonality (i.e., maps sending orthogonal elements to orthogonal elements).

CONFERENCIAS
INVITADOS
PUBLICACIONES
TESIS