

SEMINARIO DE ANÁLISIS Y APLICACIONES

Friday, 28 February, 2020

11:30 h., Módulo 17 - Aula 520 (Depto. Matemáticas UAM)

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Maximal cyclic subspaces for dual integrable representations

Resumen:

Consider a countable discrete group acting on a separable Hilbert space via unitary representation. If such representation is dual integrable, then the structure of the invariant subspaces and various properties of orbits can be analyzed using the corresponding bracket map. As a special case, we obtain systems of integer translates of a square integrable function. The properties of these systems have been extensively studied and among the known results is the fact that such system is ℓ^2 -linearly independent precisely when the periodization function is positive a.e. On the other hand, this condition is equivalent to maximality of the principal shift-invariant subspace which the system generates. Characterization of other levels of linear independence is, in most cases, still an open problem in general, however, we know that the equivalence with maximality no longer holds if we replace ℓ^2 with ℓ^p -linear independence, for $p \neq 2$. In this talk, after briefly recalling the main results and questions concerning this topic, we shall focus on several questions related with maximal cyclic subspaces for the previously described group setting, which are the part of a recent research in collaboration with H. Šikić.

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