

TITULO: The Shape of the Unitary Dual

RESUMEN:

The classification of the unitary dual of a locally compact group is a central problem in representation theory.

Unitary representations play an essential role in harmonic analysis of such groups, and the theory of automorphic forms, and their applications to analysis, mathematical physics and number theory. For Lie groups, by

work of M. Duflo and others, it is known that it is sufficient to classify the unitary spectrum of semisimple groups. The complete answer is not known, but there are large classes of groups such as complex classical groups, or classes of representations, such as spherical ones, where a complete answer is known. Typically it is a union of sets in a vector space, bounded by linear inequalities.