
THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE
Algebraic Geometry and Representation Theory Seminar

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<https://weizmann.zoom.us/j/98304397425>

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Tempered dual and crossed products for real and p-adic reductive groups

Abstract:

Let G be a real or a p-adic connected reductive group. We will consider the connected components of the tempered dual of G . They are labelled by the G -conjugacy classes of pairs formed by a Levi subgroup M of G and the orbit of a discrete series representation of M under the group of unitary unramified characters of M . For real groups, Wassermann proved in 1987, by noncommutative-geometric methods, that each connected component has a simple geometric structure which encodes the reducibility of the corresponding parabolically induced representations. We will explain how one can recover his result. For p-adic groups, each connected component comes with a compact torus equipped with a finite group action, and an analogous result, that we will describe, holds true under a certain geometric assumption on the structure of stabilizers for that action. In the case when G is a quasi-split symplectic, special orthogonal or unitary group, it is possible to explicitly determine the connected components for which the geometric assumption is satisfied. It is a joint work with Alexandre Afgoustidis.