



THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Algebraic Geometry and Representation Theory Seminar

Room 141 ,Ziskind Building
on Monday, Dec 24, 2018
at 11:15

NOTE SPECIAL DAY TIME AND ROOM

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From analysis to algebra to geometry - an example in representation theory of real groups

Abstract:

Representation theory of non-compact real groups, such as $SL(2, \mathbb{R})$, is a fundamental discipline with uses in harmonic analysis, number theory, physics, and more. This theory is analytical in nature, but in the course of the 20th century it was algebraized and geometrized (the key contributions are by Harish-Chandra for the former and by Beilinson-Bernstein for the latter). Roughly and generally speaking, algebraization strips layers from the objects of study until we are left with a bare skeleton, amenable to symbolic manipulation. Geometrization, again very roughly, reveals how algebraic objects have secret lives over spaces - thus more amenable to human intuition. In this talk, I will try to motivate and present one example - the calculation of the Casselman-Jacquet module of a principal series representation (I will explain the terms in the talk).