

A classification of irreducible admissible modulo p representations of reductive p -adic groups

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The aim of this course is to explain a classification theorem of irreducible admissible modulo p representations of reductive p -adic group in terms of supersingular (or supercuspidal) representations.

First we recall what happened in the case of GL_2 and explain how to generalize it to any reductive groups. The first step is the definition of supersingular representations using modulo p Satake isomorphisms. After that, we will give a relation between parabolic induction and compact induction. Generically, these two inductions are isomorphic to each other. However, at some point, these are not. Even if it is not the case, we can compare these inductions using changing the weight theorem, which is the next step. Finally, relations between such comparisons and classification theorem will be explained.

Lecture 1. GL_2 and general case.

Lecture 2. Satake isomorphisms.

Lecture 3. Comparison of parabolic induction with compact induction.

Lecture 4. Changing the weight theorem.

Lecture 5. Classification theorem.

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