

Local Factors and The Local Langlands Conjecture

Yusuf Danişman

Mevlana University, Konya, Turkey, ydanisman@mevlana.edu.tr

ABSTRACT

The local Langlands conjecture is at least a non-abelian generalization of abelian local class field theory. It predicts the existence of a unique correspondence between classes of irreducible representations of a reductive group (GL_n, GSp), and finite dimensional representations of an extension of the Weil group which is related to the Galois group.

Local factors are one of the ingredients of the local Langlands conjecture and they are used to show the uniqueness of the correspondence. They are one of the tools to characterize the representations of matrix groups and usually associated with an integral family of infinitely many members and not given explicitly.

In this talk, I will give an overview of Langlands program, the local Langlands conjecture and some recent results about computation of local factors.