Abstract

I explain in this talk in particular the definition of Ramanujan hypergraphs and using automorphic representations I will define adjacency operators of the quotient complexes, quotient hypergraphs respectively with the certain Hecke operators. The Ramanujan property will be discussed. I will give an explicit construction of Ramanujan Hypergraphs.

I am going to explain higher dimensional version of Jacquet-Langlands correspondence between automorphic representations of unit groups of division algebras and general linear groups which would allow to relate the situation to automorphic representations of the general linear group and thereby to the recent results of Lafforgue.