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Relatively supercuspidal representations

Let G be a connected reductive p -adic group. Let H be the fixed points of an involution of G . An irreducible smooth representation of G is said to be H -distinguished if there exists a nonzero H -invariant linear functional on the space of the representation. An irreducible smooth H -distinguished representation of G is said to be H -relatively supercuspidal if all of the relative matrix coefficients of the representation have compact support modulo HZ , where Z is the centre of G . It is known that H -distinguished supercuspidal representations of G are always H -relatively supercuspidal. In general, there exist H -relatively supercuspidal representations of G that are not supercuspidal.

We will discuss some examples of H -relatively supercuspidal representations, and we will describe work in progress concerning construction of H -relatively supercuspidal representations.