1056-11-337 Moshe Adrian* (madrian@math.umd.edu). Revisiting the Local Langlands Correspondence for GL(n,F), n a prime.

The Local Langlands Correspondence for GL(n) has been proven recently by Henniart, Harris/Taylor. In the tame case, supercuspidal representations correspond to characters of elliptic tori, but the local Langlands correspondence is unnatural because it involves a twist by some character of the torus. Taking the cue from the theory of real groups, supercuspidal representations should instead be parameterized by characters of covers of tori. DeBacker has calculated the distribution characters of supercuspidal representations for GL(n), n prime, and they are written in terms of functions on elliptic tori. Over the reals, Harish-Chandra parameterized discrete series representations of real groups by describing their distribution characters. Those distribution characters are written down in terms of functions on covers of real tori. I have succeeded in showing that if one writes down a natural analogue of Harish-Chandra's distribution character for p-adic groups, it is the character of a unique supercuspidal representation of GL(n), where n is prime, far away from the identity. These results pave the way for a new statement of the local Langlands correspondence for GL(n), n prime. In particular, there is no need to introduce any character twists. (Received September 01, 2009)