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Construction of supercuspidal L-packets

Abstract : This is a report on work in progress with Beuzart-Plessis and Thorne. Let G be a quasi-split group over a local field K of positive characteristic p. We show, conditionally on the existence of a version of the twisted trace formula adequate for stable cyclic base change, that every irreducible parameter of the Weil group of K with values in the L-group of G is the image of a (necessarily) supercuspidal representation of $G(K)$ under the local parametrization constructed by Genestier-Lafforgue and Fargues-Scholze. The proof is based on the potential automorphy theorem of the speaker's paper with Böckle, Khare, and Thorne and on a new multiplicity theorem due to Gaitsgory and Raskin, which is proved using the categorical (geometric) Langlands program. At several points the current proof needs to assume that p is prime to the order of the Weyl group of G.