

A mod p local Langlands type correspondence for p -adic GL_n 's

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Let F be a finite extension of \mathbb{Q}_p , let $n \in \mathbb{N}$, let k be a (sufficiently large) field of characteristic p . Put $G = \mathrm{GL}_n(F)$. Ideally, an (as yet hypothetical) mod p -local Langlands correspondence should relate (suitable) admissible smooth G -representations over k with n -dimensional $\mathrm{Gal}(\overline{F}/F)$ -representations over k . As an approximation, we construct a similar correspondence with G -representations replaced by modules over the pro- p -Iwahori-Hecke algebra H (over k) of G . An entirely new feature (e.g. when compared with more traditional Langlands type correspondences) is that this correspondence is even induced by an exact functor of abelian categories which is fully faithful on supersingular H -modules.

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