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Jeremy Sylvestre* (jsylvest@augustana.ca), University of Alberta, Augustana Campus, 4901 - 46 Avenue, Camrose, AB T4V 2R3, Canada. *Twisted characters of depth-zero supercuspidal representations of $GL(n)$* . Preliminary report.

Let F be a p -adic field of characteristic zero for p an odd prime, and let θ be an automorphism of $G = GL_n(F)$ of finite order. We examine the behaviour of the character of a representation π of $G \rtimes \langle \theta \rangle$ near the semisimple element θ , in the case that $\pi|_G$ is irreducible and depth-zero supercuspidal. We show that under some restrictions on θ , such a character can be expressed as a linear combination of characters on the group $G_\theta \subseteq G$ of fixed points of θ . This allows us to express the character of π as a linear combination of Fourier transforms of orbital integrals on the Lie algebra of G_θ . (Received August 12, 2008)