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D. Adler (jadler@american.edu), Department of Mathematics and Statistics Amer, American University, 4400 Massachusetts Avenue, NW, Washington, DC 20016-8050. Liftings of Representations of Finite Groups with Applications to p-adic Base Change. Preliminary report.

Let G be a connected reductive group defined over a finite field k, and let ε be a quasi-semisimple k-automorphism of G. We construct a lifting of classes of representations from the connected fixed-point group $(G^{\varepsilon})^{\circ}(k)$ to G(k). In certain instances, we present evidence that this lifting gives the relationship between the types of depth-zero p-adic group representations that correspond under p-adic base change. (Received August 01, 2007)