

1106-05-2507

Michael N Crumley* (crumley@findlay.edu), University of Findlay, 1000 N. Main St.,
Department of Mathematics, Findlay, OH 45840. *Generic Representation Theory of the Unipotent
Upper Triangular Groups.*

We give a neat characterization of the d -dimensional representation theory of the Unipotent Upper Triangular groups U_n over a field k of characteristic $p > 0$, in the case where p is sufficiently larger than both n and d . Specifically, so long as $p \geq \max(n, 2d)$, every d -dimensional representation of U_n over k is a commuting product of individual representations, one for each of the representation's 'Frobenius layers', and each of which 'look like' a representation of U_n in characteristic zero (in the sense that both are given rise to, via the Baker-Campbell-Hausdorff formula, by a representation of the Lie algebra of U_n). This analogy between the 'generic' representation theory of U_n in positive characteristic and the representation theory of U_n^∞ in characteristic zero is in fact functorial, in the sense that the analogy is applicable to morphisms between representations as well. (Received September 16, 2014)