1147-20-208 **Christopher M Drupieski*** (`c.drupieski@depaul.edu`) and **Jonathan R Kujawa** (`kujawa@math.ou.edu`). *Support schemes for infinitesimal unipotent supergroups.*

Let k be a field of characteristic $p \geq 3$, and let G be an infinitesimal unipotent k-supergroup scheme. In this talk I will report on work with Jonathan Kujawa, in which we investigate the cohomological spectrum $|G| = Spec(H^\bullet(G, k))$ of G, as well as the cohomological support schemes $|G|_M \subseteq |G|$ associated to each finite-dimensional rational G-supermodule M. When G is infinitesimal of height 1, our results can be interpreted in terms of the restricted Lie superalgebra $Lie(G)$. Generalizing classical results of Suslin, Friedlander, and Bendel, we show that there is a homeomorphism between $|G|$ and the scheme $V_r(G)$ of Hopf superalgebra homomorphisms $\nu : \mathbb{P}_r \to kG$, where $\mathbb{P}_r$ is a certain Hopf superalgebra and kG is the group algebra of G, and this homeomorphism restricts to a homeomorphism between $|G|_M$ and a naturally defined Zariski closed conical subscheme $V_r(G)_M \subseteq V_r(G)$. To make these identifications, we rely in an essential way on a nilpotence detection theorem for arbitrary finite unipotent supergroup schemes by Benson, Iyengar, Krause, and Pevtsova. (Received January 10, 2019)