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**Harry Jared Warner\*** (hjwarner@usc.edu). *The Category of Elementary Subalgebras of a Restricted Lie Algebra.*

For  $p$  a prime and  $\Gamma$  a finite group, Quillen's category of elementary abelian  $p$ -subgroups of  $\Gamma$ , denoted  $\mathcal{E}(\Gamma)$ , plays a central role in the cohomology and representation theory of  $\Gamma$ . For  $\mathfrak{g}$  a restricted Lie algebra, abelian subalgebras with trivial restriction are the natural analogue to elementary abelian  $p$ -subgroups, and are thus referred to as elementary subalgebras. In this talk we will define  $\mathcal{E}(\mathfrak{g})$ , the category of elementary subalgebras of  $\mathfrak{g}$ , and in the case that  $\mathfrak{g} = \text{Lie}(G)$  for a connected, reductive group  $G$  defined over  $\mathbb{F}_p$ , we will state some results concerning the relationship between  $\mathcal{E}(\mathfrak{g})$  and  $\mathcal{E}(G(\mathbb{F}_q))$  for  $q$  a  $p$ th power. If time permits, we will also discuss applications of these results to the study of the  $G$ -variety of elementary subalgebras of  $\mathfrak{g}$  as defined by Jon Carlson, Eric Friedlander, and Julia Pevtsova. (Received September 16, 2014)