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Let  $G$  be an algebraic group defined over a prime field  $\mathbb{F}_p$ . The restricted nullcone  $V$  is the closed subvariety of the Lie algebra  $\mathfrak{g}$  of  $G$  consisting of  $x \in \mathfrak{g}$  satisfying  $x^{[p]} = 0$ . In this talk, we discuss the structure of  $V_G$  especially in relation to the cohomology of  $G$  and related subgroups. The case in which  $G$  is semisimple, and  $p$  is good, but less than the Coxeter number of  $G$ , is particularly interesting. (Received September 28, 2000)