Nilpotent Orbits in Lie Triple Systems

Let $\mathfrak{g}$ be a Lie algebra defined over a field of positive characteristic $p$. Let
$\theta$ be an involution on $\mathfrak{g}$, with $-1$-eigenspace denoted by $\mathfrak{p}$. The space $\mathfrak{p}$ has
the structure of a Lie triple system. In this talk, we will discuss the set $\mathcal{N}(\mathfrak{p})$
(called the nullcone of $\mathfrak{p}$) which consists of the nilpotent elements of $\mathfrak{g}$ in $\mathfrak{p}$.
We will also discuss a related object called the restricted nullcone of $\mathfrak{p}$ and
how it relates to the cohomology of Lie triple systems.