Annihilators and power values of generalized skew derivations on Lie ideals
Vincenzo De Filippis

Abstract. Let $R$ be a prime ring of characteristic different from 2, $Q_r$ be its right Martindale quotient ring and $C$ be its extended centroid. Suppose that $F$ is a generalized skew derivation of $R$, $L$ a non-central Lie ideal of $R$, $0 \neq a \in R$, $m \geq 0$ and $n, s \geq 1$ fixed integers. If

$$a \left( u^m F(u) u^n \right)^s = 0$$

for all $u \in L$, then either $R \subseteq M_2(C)$, the ring of $2 \times 2$ matrices over $C$, or $m = 0$ and there exists $b \in Q_r$ such that $F(x) = bx$, for any $x \in R$, with $ab = 0$. 