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Let K be a field of characteristic $\neq 2$, A a commutative K-algebra and $\omega\colon A \to K$ a weight homomorphism. A is a Bernstein algebra of order 1 if $(x^2)^2 = \omega(x)^2 x^2$ for all $x \in A$. The set of idempotents of A is $\mathrm{Ip}(A) = \{x^2 |\ \omega(x) = 1\}$, and if $e \in \mathrm{Ip}(A)$, the Peirce decomposition of A with respect to e is $A = Ke \oplus U \oplus V$, where $U = \{x |\ ex = \frac{1}{2}x\}$ and $V = \{x |\ ex = 0\}$ satisfy $U^2 \subset V$, $V^2 \subset U$, $UV \subset U$, $UV^2 = U^2V^2 = 0$. When $\mathrm{Ip}(A) = \{e_s = e + s + s^2 |\ s \in U\}$, the eigensubspaces relative to the idempotent e_s are $U_s = \{u_s = u + 2su |\ u \in U\}$ and $V_s = \{v_s = v - 2(s + s^2)v |\ v \in V\}$. Let $P = \{T_s |\ s \in U\}$, where T_s is a bijective linear mapping such that $T_s(\lambda e + u + v) = \lambda e_s + u_s + v_s$. Let $F_s = \{f \in \mathrm{Aut}(A) |\ f(e_s) = e_s\}$ be a family of subgroups of $\mathrm{Aut}(A)$ and let $\Delta_s = \{\delta_s \in \mathrm{Der}(A) |\ \delta_s(e_s) = 0\}$ for all $s \in U$, with $F = F_0$, $\Delta = \Delta_0$.

In this paper the authors study the Lie algebra $\mathrm{Der}(A)$ when P is either a subset or a subgroup of $\mathrm{Aut}(A)$. Several results are given and the computation of F and Δ is carried out in some examples.

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