Let $K$ be an infinite field of characteristic $\neq 2$, $A$ a finite-dimensional commutative algebra, $\omega : A \to K$ a nonzero homomorphism of algebras. $(A, \omega)$ is called a second order Bernstein algebra if $x^4 = \omega(x)x^3$, where the plenary powers $x^n$ of $x$ are defined by $x^1 = x$ and $x^{k+1} = x^k x^k$ for $k > 1$. If $e$ is one nonzero idempotent element of $A$ then $\omega(x) = 1$ and $A$ has a Peirce decomposition $A = Ke + U + Z$, where $U = \{x \in \text{Ker} \omega | ex = \frac{1}{2}x\}$ and $Z = \{x \in \text{Ker} \omega | e(ex) = 0\}$.

In this paper the authors study the algebra of derivations $\text{Der}(A)$ of a second order Bernstein algebra $A$. They seek a bound for $\dim_K \text{Der}(A)$ in the case of a second order Bernstein algebra that satisfies $eZ \neq 0$, $(U + Z)^2 \subseteq Z$ or $A$ is a power associative algebra. They prove that in a Jordan second order Bernstein algebra $\text{Der}(A) \neq 0$ and give a description of the ideal of inner derivations of $A$.

{For the entire collection see MR1751123 (2001a:17002)}

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