D. Wang

School of Science, China University of Mining and Technology, Xuzhou 221008, P. R. China
wdengyin@126.com

H. Bian

School of Science, China University of Mining and Technology, Xuzhou 221008, P. R. China

B. Chen

School of Science, China University of Mining and Technology, Xuzhou 221008, P. R. China

Solvable Lie Algebras with Nilradicals of Orthogonal Types

Let $n \geq 4$ be a positive integer, $\mathfrak{n}$ a maximal nilpotent subalgebra of the orthogonal algebra $o(2n, F)$ over a field F of characteristic not 2, $\mathfrak{s}$ a solvable Lie algebra containing $\mathfrak{n}$ as its nilradical. This article shows that the dimension of $\mathfrak{s}$ is at most $\dim(\mathfrak{n}) + n$, and $\mathfrak{s}$ is isomorphic to the standard Borel subalgebra $\mathfrak{b}$ of $o(2n, F)$ if and only if $\dim(\mathfrak{s}) = \dim(\mathfrak{n}) + n$.