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Algebraic K-theory of the dual numbers. Preliminary report.

Nearly 30 years ago, Soulé showed that the abelian group $K_n(\mathbb{Z}[x]/x^2, (x))$ is finitely generated with rank 0 if n is even and 1 if n is odd. We show that $K_{2i+1}(\mathbb{Z}[x]/x^2, (x)) \cong \mathbb{Z}$, and that $|K_{2i}(\mathbb{Z}[x]/x^2, (x))| = (2i)!$ Further, we generalize these results to the study of the algebraic K -theory of truncated polynomial algebras, $K_n(\mathbb{Z}[x]/x^e, (x))$. (Received August 25, 2008)