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Leroy, André; **Matczuk, Jerzy** (PL-WASW-IM)

Goldie conditions for Ore extensions over semiprime rings. (English summary)

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The main result of the paper is that if R is a semiprime left Goldie ring, σ is a monomorphism of R and δ is a σ-derivation, then the Ore extension $R[x; \sigma; \delta]$ is semiprime left Goldie with the same uniform dimension as R. Contrary to the automorphism case, a semiprime left Goldie $R[x; \sigma; \delta]$ with semiprime R does not imply a left Goldie R.

   The main tool of the paper is the notion of Jordan extension: if R is a ring and σ a monomorphism of R, an over-ring A of R is a Jordan extension of R if σ extends to an automorphism of A and $A = \bigcup_{n \in \mathbb{N}} \sigma^{-n}(R)$. Jordan extensions always exist and are unique up to isomorphism, and the authors prove that they inherit and keep relevant information about R itself. In particular, Jordan extensions of semisimple rings are described.

<div align="right">Reviewed by Miguel A. Gómez Lozano</div>

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Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.