Ashraf, Mohammad

A commutativity theorem for associative rings. (English) Zbl 0839.16030

Arch. Math., Brno 31, No. 3, 201-204 (1995).

Let $m > 1$ and $s \geq 1$ be fixed positive integers, and R be an associative ring with unity such that for any $x, y \in R$, $m[x, y] = 0$ implies $[x, y] = 0$. The author proves that a ring R is commutative if R satisfies one of the following conditions: 1) for each $x \in R$ there exist nonnegative integers p, q, n, r such that for all $y \in R$, $x^p[x^n, y]x^q = y^s[x, y^m]x^r$; 2) for each $x \in R$ there exist nonnegative integers p, q, n, r such that for all $y \in R$ $x^p[x^n, y]x^q = x^r[x, y^m]y^s$.

Reviewer: Yu.N.Mal'tsev (Barnaul)

MSC:

16U70 Center, normalizer (invariant elements) (associative rings and algebras)
16U80 Generalizations of commutativity (associative rings and algebras)
16R50 Other kinds of identities (generalized polynomial, rational, involution)

Keywords:

commutativity theorem; commutator constraints

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