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Alhevaz, A.; **Moussavi, A.**; **Habibi, M.**
On rings having McCoy-like conditions. (English) Zbl 1260.16024
Commun. Algebra 40, No. 4, 1195-1221 (2012).

Summary: In [J. Algebra 298, No. 1, 134-141 (2006; Zbl 1110.16036)], *P. P. Nielsen* proves that all reversible rings are McCoy and gives an example of a semicommutative ring that is not right McCoy. At the same time, he also shows that semicommutative rings do have a property close to the McCoy condition. In this article we study weak McCoy rings as a common generalization of McCoy rings and weak Armendariz rings. Relations between the weak McCoy property and other standard ring theoretic properties are considered. We also study the weak skew McCoy condition, a generalization of the standard weak McCoy condition from polynomials to skew polynomial rings. We resolve the structure of weak skew McCoy rings and obtain various necessary or sufficient conditions for a ring to be weak skew McCoy, unifying and generalizing a number of known McCoy-like conditions in the special cases. Constructing various examples, we classify how the weak McCoy property behaves under various ring extensions. As a consequence we extend and unify several known results related to McCoy rings and Armendariz rings [*M. Başer, T. K. Kwak* and *Y. Lee*, Commun. Algebra 37, No. 11, 4026-4037 (2009; Zbl 1187.16027); *Z.-K. Liu* and *R.-Y. Zhao*, Commun. Algebra 34, No. 7, 2607-2616 (2006; Zbl 1110.16026); *A. Moussavi* and *E. Hashemi*, J. Korean Math. Soc. 42, No. 2, 353-363 (2005; Zbl 1090.16012); *L.-Q. Ouyang*, Glasg. Math. J. 51, No. 3, 525-537 (2009; Zbl 1186.16017); *C.-P. Zhang* and *J.-L. Chen*, J. Korean Math. Soc. 47, No. 3, 455-466 (2010; Zbl 1191.16026)].

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings
16U80 Generalizations of commutativity (associative rings and algebras)
16D70 Structure and classification for modules, bimodules and ideals (except as in 16Gxx), direct sum decomposition and cancellation in associative algebras)

Keywords:

monoid rings; semicommutative rings; skew polynomial rings; weak Armendariz rings; weak McCoy rings; weak zip rings; reversible rings

Full Text: DOI

References:

[1] DOI: 10.1090/S0002-9939-1956-0075933-2· doi:10.1090/S0002-9939-1956-0075933-2
[2] DOI: 10.1080/00927879808826274 · Zbl 0915.13001 · doi:10.1080/00927879808826274
[3] DOI: 10.1016/j.jalgebra.2008.01.019 · Zbl 1157.16007 · doi:10.1016/j.jalgebra.2008.01.019
[4] DOI: 10.1017/S1446788700029190 · Zbl 0292.16009 · doi:10.1017/S1446788700029190
[5] DOI: 10.1080/00927870802545661 · Zbl 1187.16027 · doi:10.1080/00927870802545661
[6] Beachy J. A., Pacific J. Math. 58 (1) pp 1– (1975)
[7] DOI: 10.1016/S0021-8693(03)00155-8 · Zbl 1054.16018 · doi:10.1016/S0021-8693(03)00155-8
[8] DOI: 10.1016/j.jpaa.2007.06.010 · Zbl 1162.16021 · doi:10.1016/j.jpaa.2007.06.010
[9] DOI: 10.1080/00927879108824242 · Zbl 0733.16007 · doi:10.1080/00927879108824242
[10] Chen W., Houston J. Math. 33 (2) pp 341– (2007)
[11] DOI: 10.1215/S0012-7094-67-03446-1 · Zbl 0204.04502 · doi:10.1215/S0012-7094-67-03446-1
[12] DOI: 10.5565/PUBLMAT_33289_09 · Zbl 0702.16015 · doi:10.5565/PUBLMAT$_3$3289$_0$9
[13] DOI: 10.1080/00927879108824235 · Zbl 0729.16015 · doi:10.1080/00927879108824235
[14] Ghalandarzade Sh., Thai. J. Math. 6 (2) pp 337– (2008)
[15] Goodearl K. R., An Introduction to Noncommutative Noetherian Rings (1989) · Zbl 0679.16001
[16] DOI: 10.1080/00927870902911763 · Zbl 1207.16041 · doi:10.1080/00927870902911763

[17] DOI: 10.1007/s10474-005-0191-1 · Zbl 1081.16032 · doi:10.1007/s10474-005-0191-1
[18] DOI: 10.1016/S0022-4049(01)00053-6 · Zbl 1007.16020 · doi:10.1016/S0022-4049(01)00053-6
[19] DOI: 10.1081/AGB-120016752 · Zbl 1042.16014 · doi:10.1081/AGB-120016752
[20] DOI: 10.1016/j.jpaa.2004.08.025 · Zbl 1071.16020 · doi:10.1016/j.jpaa.2004.08.025
[21] DOI: 10.1017/S0017089509990243 · Zbl 1195.16026 · doi:10.1017/S0017089509990243
[22] Hong C. Y., Algebra Colloq. 13 (2) pp 253– (2006)
[23] DOI: 10.1081/AGB-120013179 · Zbl 1023.16005 · doi:10.1081/AGB-120013179
[24] DOI: 10.4134/BKMS.2007.44.4.641 · Zbl 1159.16023 · doi:10.4134/BKMS.2007.44.4.641
[25] DOI: 10.1006/jabr.1999.8017 · Zbl 0957.16018 · doi:10.1006/jabr.1999.8017
[26] Krempa J., Algebra Colloq. 3 (4) pp 289– (1996)
[27] DOI: 10.1080/00927879708826000 · Zbl 0879.16016 · doi:10.1080/00927879708826000
[28] DOI: 10.1081/AGB-120037221 · Zbl 1068.16037 · doi:10.1081/AGB-120037221
[29] Lee , T. K. , Zhou , Y. (2004).Reduced Modules, Rings, Modules, Algebras, and Abelian Groups, Lecture Notes in Pure and Appl. Math., Vol. 236. New York: Marcel Dekker, pp. 365–377 . · Zbl 1075.16003
[30] DOI: 10.1017/S0004972700039526 · Zbl 1127.16027 · doi:10.1017/S0004972700039526
[31] DOI: 10.1081/AGB-200049869 · Zbl 1088.16021 · doi:10.1081/AGB-200049869
[32] DOI: 10.1080/00927870600651398 · Zbl 1110.16026 · doi:10.1080/00927870600651398
[33] DOI: 10.1016/S0021-8693(03)00301-6 · Zbl 1045.16001 · doi:10.1016/S0021-8693(03)00301-6
[34] DOI: 10.2307/2303094 · Zbl 0060.07703 · doi:10.2307/2303094
[35] DOI: 10.4134/JKMS.2005.42.2.353 · Zbl 1090.16012 · doi:10.4134/JKMS.2005.42.2.353
[36] DOI: 10.1080/00927870701718849 · Zbl 1142.16016 · doi:10.1080/00927870701718849
[37] DOI: 10.1016/j.jalgebra.2005.10.008 · Zbl 1110.16036 · doi:10.1016/j.jalgebra.2005.10.008
[38] Okninski J., Semigroup Algebra (1991)
[39] DOI: 10.1017/S0017089509005151 · Zbl 1186.16017 · doi:10.1017/S0017089509005151
[40] Passman D. S., The Algebraic Structure of Group Rings (1977) · Zbl 0368.16003
[41] DOI: 10.3792/pjaa.73.14 · Zbl 0960.16038 · doi:10.3792/pjaa.73.14
[42] DOI: 10.1016/0022-4049(92)90056-L · Zbl 0761.13007 · doi:10.1016/0022-4049(92)90056-L
[43] Ying Z. L., Northeast. Math. J. 24 (1) pp 85– (2008)
[44] DOI: 10.1090/S0002-9939-1976-0419512-6· doi:10.1090/S0002-9939-1976-0419512-6
[45] DOI: 10.4134/JKMS.2010.47.3.455 · Zbl 1191.16026 · doi:10.4134/JKMS.2010.47.3.455

Manaviyat, R.; **Moussavi, A.**; **Habibi, M.**
Pseudo-differential operator rings with Armendariz-like condition. (English) Zbl 1266.16020
Commun. Algebra 40, No. 3, 1103-1115 (2012).

The algebras of pseudo-differential operators have been introduced by Schur and Tuganbaev studied their ring-theoretical properties. In the present paper the authors study special types of pseudo-differential operator rings. These rings are specified by a weaker condition than Armendariz property as follows. A ring R with derivation δ is said to be an Armendariz ring of pseudo-differential operator type (or simply $\mathcal{DO}$-Armendariz) if for each $f(x)=\sum_{i=-\infty}^{m} a_i x^i$ and $g(x)=\sum_{j=-\infty}^{n} b_j x^j$ from $R((x^{-1},\delta))$ the condition $f(x)g(x)=0$ implies $a_0 b_j=0$, for all $j\leq n$.

The first result given in the paper is a criterion for a ring with a derivation to be an Armendariz ring of pseudo-differential operator type. It is shown that any reduced ring with derivation is a $\mathcal{DO}$-Armendariz ring.

Then the authors define a linear Armendariz ring of pseudo-differential operator type (or simply linear $\mathcal{DO}$-Armendariz ring). The definition is as follows. A ring R with derivation δ is called a linear $\mathcal{DO}$-Armendariz if for each $f(x)=a_{-1}x^{-1}+a_0$ and $g(x)=b_{-1}x^{-1}+a_0$ from $R((x^{-1},\delta))$ the condition $f(x)g(x)=0$ implies $a_0b_0=a_0b_1=0$. The authors give a criterion for a ring with derivation δ to be linear $\mathcal{DO}$-Armendariz.

The further study is related to the $\mathcal{DO}$-Armendarizity and "radical" properties of a ring. They prove that if R is a $\mathcal{DO}$-Armendariz ring then

$$N_0(R) = \mathrm{Nil}_*(R) = \text{L-rad}(R) = \mathrm{Nil}^*(R)$$

and for $S = R((x^{-1}, \delta))$ one has

$$N_0(S) = \mathrm{Nil}_*(S) = \text{L-rad}(S) = \mathrm{Nil}^*(S), \quad \mathrm{Nil}_*(R) = \mathrm{Nil}_*(S) \cap R,$$

$$\mathrm{Nil}^*(M_n(R))) = M_n(\mathrm{Nil}^*(R))), \quad \mathrm{Nil}^*(M_n(S)) = M_n(\mathrm{Nil}^*(S)),$$

$$J(R[x]) = \mathrm{Nil}^*(R)[x], \quad J(S[y]) = \mathrm{Nil}^*(S)[y],$$

where $N_0(R)$ is the Wedderburn radical, $\mathrm{Nil}_*(R)$ and $\mathrm{Nil}^*(R)$ are the lower and upper nil radical of R, respectively, L-rad(R) is the Levitzky radical, and $J(R)$ is the Jacobson radical of R.

In the last section of the paper the authors treat the $\mathcal{DO}$-Armendariz properties on examples of subrings of the upper triangular matrices over a ring with derivation.

Reviewer: Isamiddin Rakhimov (Serdang)

MSC:

16S32 Rings of differential operators (associative algebraic aspects)
16W60 Valuations, completions, formal power series and related constructions (associative rings and algebras)
16S36 Ordinary and skew polynomial rings and semigroup rings
16N80 General radicals and associative rings
16N40 Nil and nilpotent radicals, sets, ideals, associative rings
16W25 Derivations, actions of Lie algebras

Keywords:

Armendariz-like rings; pseudo-differential operator rings; radicals; Levitzky radical; nil radical; rings with derivations

Full Text: DOI

References:

[1] DOI: 10.1090/S0002-9939-1956-0075933-2· doi:10.1090/S0002-9939-1956-0075933-2
[2] DOI: 10.1080/00927879808826274 · Zbl 0915.13001 · doi:10.1080/00927879808826274
[3] DOI: 10.1016/j.jalgebra.2008.01.019 · Zbl 1157.16007 · doi:10.1016/j.jalgebra.2008.01.019
[4] DOI: 10.1017/S1446788700029190 · Zbl 0292.16009 · doi:10.1017/S1446788700029190
[5] DOI: 10.1017/S0004972700042052 · Zbl 0191.02902 · doi:10.1017/S0004972700042052
[6] Birkenmeier , G. F. , Heatherly , H. E. , Lee , E. K. (1993). Completely prime ideals and associated radicals.Ring Theory(Granville, OH, 1992). River Edge, NJ: World Sci. Publ., pp. 102–129 . · Zbl 0853.16022
[7] Dzumadildaev A. S., Algebra Anal. 6 (1) pp 140– (1994)
[8] Gelfand I. M., Funct. Anal. Appl. 10 (4) pp 13– (1976)
[9] DOI: 10.1216/RMJ-1983-13-4-573 · Zbl 0532.16002 · doi:10.1216/RMJ-1983-13-4-573
[10] DOI: 10.1017/CBO9780511841699· doi:10.1017/CBO9780511841699
[11] DOI: 10.4153/CJM-1964-074-0 · Zbl 0129.02004 · doi:10.4153/CJM-1964-074-0
[12] DOI: 10.1016/S0022-4049(01)00053-6 · Zbl 1007.16020 · doi:10.1016/S0022-4049(01)00053-6
[13] DOI: 10.1081/AGB-120013179 · Zbl 1023.16005 · doi:10.1081/AGB-120013179
[14] DOI: 10.1007/978-1-4419-8616-0· doi:10.1007/978-1-4419-8616-0
[15] DOI: 10.4153/CJM-1969-098-x · Zbl 0182.36701 · doi:10.4153/CJM-1969-098-x
[16] Lee , T. K.,Zhou , Y.(2004). Armendariz and reduced rings.Comm. in Alg.32(6): 2287–2299. · Zbl 1068.16037
[17] DOI: 10.1080/00927872.2010.525728 · Zbl 1261.16045 · doi:10.1080/00927872.2010.525728

[18] DOI: 10.1007/BF01393991 · Zbl 0666.35074 · doi:10.1007/BF01393991
[19] DOI: 10.1080/00927870701718849 · Zbl 1142.16016 · doi:10.1080/00927870701718849
[20] DOI: 10.3792/pjaa.73.14 · Zbl 0960.16038 · doi:10.3792/pjaa.73.14
[21] Sato M., Lect. Notes Num. Appl. Anal. 5 pp 259– (1982)
[22] Schur I., Sitzungsber, Berliner Math. Ges. 4 pp 2– (1905)
[23] DOI: 10.1006/jabr.2000.8451 · Zbl 0969.16006 · doi:10.1006/jabr.2000.8451
[24] Tuganbaev D. A., Vestnik MGU, Ser. I Mat. Mekh. 1 pp 51– (2000)
[25] Tuganbaev D. A., Vestn. MGU, Ser. I. Mat. Mekh. 5 pp 55– (2000)
[26] DOI: 10.1007/s10958-005-0244-6· doi:10.1007/s10958-005-0244-6

Manaviyat, R.; **Moussavi, A.**; **Habibi, M.**
On skew inverse Laurent-serieswise Armendariz rings. (English) Zbl 1261.16045
Commun. Algebra 40, No. 1, 138-156 (2012).

Assume R is an associative ring with identity and α is a ring automorphism of R. Denote $R((x^{-1};\alpha))$, the ring of formal skew Laurent series in x^{-1}, whose elements are of the form $\sum_{i=-\infty}^{n} a_ix^i$, with usual addition and multiplication subject to the rule $x^ia = \alpha^i(a)x^i$ for each i. A ring R is said to be skew inverse Laurent-serieswise Armendariz (or simply, SIL-Armendariz), if for each $f(x) = \sum_{i=-\infty}^{n} a_ix^i$ and $g(x) = \sum_{j=-\infty}^{m} b_jx^j$ in $R((x^{-1};\alpha))$, $f(x)g(x) = 0$ implies that $a_i\alpha^i(b_j) = 0$ for each $i \leq n$ and $j \leq m$.

The authors study in this paper relations between the set of annihilators in R and the set of annihilators in $R((x^{-1};\alpha))$. Also they study some properties of a SIL-Armendariz ring R such as the Baer and α-quasi Baer property transfer to its skew inverse Laurent series extensions $R((x^{-1};\alpha))$ and vice versa.

Reviewer: J. K. Park (Pusan)

MSC:

16W60	Valuations, completions, formal power series and related constructions (associative rings and algebras)	Cited in **1** Review Cited in **7** Documents
16S36	Ordinary and skew polynomial rings and semigroup rings	
16P60	Chain conditions on annihilators and summands: Goldie-type conditions	

Keywords:

Laurent-serieswise Armendariz rings; principally quasi-Baer rings; skew inverse Laurent series rings; rings of formal skew Laurent series; SIL-Armendariz rings; annihilators

Full Text: DOI

References:

[1] Anderson D. D., Comm. Algebra 26 pp 2265– (1998) · Zbl 0915.13001 · doi:10.1080/00927879808826274
[2] Armendariz E.P., J. Austral. Math. Soc 18 pp 470– (1974) · Zbl 0292.16009 · doi:10.1017/S1446788700029190
[3] Armendariz E. P., Comm. Algebra 15 pp 2633– (1987) · Zbl 0629.16002 · doi:10.1080/00927878708823556
[4] Birkenmeier G. F., Comm. Algebra 11 pp 567– (1983) · Zbl 0505.16004 · doi:10.1080/00927878308822865
[5] Birkenmeier G. F., Kyungpook Math. J. 40 pp 247– (2000)
[6] Birkenmeier G. F., J. Pure Appl. Algebra 159 pp 24– (2001)
[7] Birkenmeier G. F., Comm. Algebra 29 pp 639– (2001) · Zbl 0991.16005 · doi:10.1081/AGB-100001530
[8] Clark W. E., Duke Math. J. 34 pp 417– (1967) · Zbl 0204.04502 · doi:10.1215/S0012-7094-67-03446-1
[9] Fraser J. A., Math. Japonica 34 pp 715– (1989)
[10] Goodearl K. R., J. Algebra 150 pp 324– (1992) · Zbl 0779.16010 · doi:10.1016/S0021-8693(05)80036-5
[11] Goodearl K. R., An introduction to noncommutative Noetherian rings (2004) · Zbl 1101.16001 · doi:10.1017/CBO9780511841699

[12] Habibi M., Comm. Alg. 38 pp 3637– (2010) · Zbl 1213.16016 · doi:10.1080/00927870903200943
[13] Han J., Comm. Algebra 28 pp 3795– (2000) · Zbl 0965.16015 · doi:10.1080/00927870008827058
[14] Hashemi E., Acta Math. Hungar. 107 pp 207– (2005) · Zbl 1081.16032 · doi:10.1007/s10474-005-0191-1
[15] Hirano Y., J. Pure Appl. Algebra 168 pp 45– (2002) · Zbl 1007.16020 · doi:10.1016/S0022-4049(01)00053-6
[16] Hong C. Y., J. Pure Appl. Algebra 151 pp 215– (2000) · Zbl 0982.16021 · doi:10.1016/S0022-4049(99)00020-1
[17] Huang F. K., Taiwanese J. Math. 45 pp 469– (2008)
[18] Proc. Amer. Math. Soc. 28 pp 431– (1971)
[19] Kaplansky I., Rings of Operators (1965) · Zbl 0174.18503
[20] Kim N. K., J. Algebra 223 pp 477– (2000) · Zbl 0957.16018 · doi:10.1006/jabr.1999.8017
[21] Krempa J., Algebra Colloq. 3 pp 289– (1996)
[22] Lee T. K., Comm. in Alg. 32 pp 2287–
[23] Liu Z., Comm. Algebra 30 pp 3885– (2002) · Zbl 1018.16023 · doi:10.1081/AGB-120005825
[24] Manaviyat R., Comm. Algebra 38 pp 2164– · Zbl 1202.16024 · doi:10.1080/00927870903045173
[25] Rege M. B., Proc. Japan Acad. Ser. A Math. Sci. 73 pp 14– (1997) · Zbl 0960.16038 · doi:10.3792/pjaa.73.14
[26] Rege M. B., Int. Electron. J. Algebra 1 pp 11– (2007) · Zbl 1206.94106 · doi:10.12988/ija.2007.07002
[27] Nasr-Isfahani A. R., A Generalization of Reduced Rings · Zbl 1259.16033
[28] Nasr-Isfahani A. R., Glasg. Math. J. 51 pp 425– (2009) · Zbl 1184.16026 · doi:10.1017/S0017089509005084
[29] Pollingher P., Duke Math. J. 37 pp 127– (1970) · Zbl 0219.16010 · doi:10.1215/S0012-7094-70-03718-X
[30] Tominaga H., Math. J. Okayama Univ. 18 pp 117– (1976)

Moussavi, A.; Omit, S.; Ahmadi, Ali
A note on nilpotent lattice matrices. (English) Zbl 1235.15020
Int. J. Algebra 5, No. 1-4, 83-89 (2011).

Authors' abstract: Some properties and characterizations for nilpotent matrices are established and in particular, a necessary and sufficient condition for an $n \times n$ nilpotent matrix to have the nilpotent index 2 and 3 is given.

Reviewer: Grozio Stanilov (Sofia)

MSC:

15B33 Matrices over special rings (quaternions, finite fields, etc.)
06D99 Distributive lattices

Cited in **1** Document

Keywords:
distributive lattice; matrix powers; nilpotent matrices

Full Text: Link

Moussavi, A.; Keshavarz, F.; Rasuli, M.; Alhevaz, A.
Weak Armendariz skew polynomial rings. (English) Zbl 1239.16029
Int. J. Algebra 5, No. 1-4, 71-81 (2011).

Let R be a ring with 1, α an endomorphism of R, $R[x]$ the polynomial ring with indeterminate x, and $R[x,\alpha]$ the skew polynomial ring. Then R is called α-weak Armendariz (resp., α-skew weak Armendariz) if for $f(x) = \sum_{i=0}^{m} a_i x^i$ and $g(x) = \sum_{j=0}^{n} a_j x^j \in R[x,\alpha]$, $f(x)g(x) = 0$, then $a_i b_j \in \mathrm{nil}(R)$ (resp., $a_i \alpha^i(b_j) \in \mathrm{nil}(R)$) for all i, j, where $\mathrm{nil}(R)$ is the set of the nilpotent elements of R. An α-skew weak Armendariz ring is a generalization of a weak Armendariz ring.

Theorem. The following statements are equivalent: (1) R is α-weak Armendariz, (2) the ring of upper triangular matrices $T_n(R)$ over R of order n is $\overline{\alpha}$-weak Armendariz, (3) the quotient ring $R[x]/\langle x^n\rangle$ is $\overline{\alpha}$-weak Armendariz, for any n, where $\overline{\alpha}$ is induced by α in a natural way.

Moreover, relationships are also given between an α-weak Armendariz ring and other classes of rings such as semicommutative rings, and α-compatible rings.

Reviewer: George Szeto (Peoria)

MSC:

16S36	Ordinary and skew polynomial rings and semigroup rings	Cited in **1** Document
16W20	Automorphisms and endomorphisms	
16U80	Generalizations of commutativity (associative rings and algebras)	

Keywords:

weak Armendariz rings; semicommutative rings; α-compatible rings; skew polynomial rings

Full Text: Link

Nasr-Isfahani, Alireza; **Moussavi, Ahmad**

On skew power serieswise Armendariz rings. (English) Zbl 1241.16029

Commun. Algebra 39, No. 9, 3114-3132 (2011).

Let R be a ring with 1, α an endomorphism of R, $R[x;\alpha]$ a skew polynomial ring. Then R is called α-Armendariz if for $f(x)=\sum_{i=0}^{m}a_ix^i$ and $g(x)=\sum_{j=0}^{n}a_jx^j\in R[x,\alpha]$, $f(x)g(x)=0$ implies $a_ib_j=0$ for all i,j.

If $a\alpha(a)=0$ implies $a=0$ for $a\in R$, then α is called rigid, and R is called α-rigid if there exists a rigid α. Let $R[[x;\alpha]]$ be a skew power series ring. Then R is called skew power serieswise Armendariz (SPA) if for $f(x)=\sum a_ix^i$ and $g(x)=\sum a_jx^j\in R[[x,\alpha]]$, $f(x)g(x)=0$ implies $a_ib_j=0$ for all i,j. An α-Armendariz and an α-rigid ring are SPA-rings.

Let $N_0(R)$ be the Wedderburn radical, $\mathrm{Nil}_*(R)$ be the lower nil radical, L-rad(R) the Levitzky radical, $\mathrm{Nil}^*(R)$ be the upper nil radical, $J(R)$ the Jacobson radical and $\mathrm{Nil}(R)$ is the set of all nilpotent elements of R. If R is an SPA-ring, then the above radicals of R are the same.

Let S be one of $R[x,x^{-1};\alpha]$ (the skew Laurent-series ring), $R[[x,x^{-1};\alpha]]$ (the skew Laurent power-series ring), $R[x;\alpha]$, and $R[[x;\alpha]]$. Then $N_0(S)=N_0(R)S=\mathrm{Nil}_*(S)=\mathrm{Nil}_*(R)S=\text{L-rad}(S)=\text{L-rad}(R)S=\mathrm{Nil}^*(S)=\mathrm{Nil}(R)S=\mathrm{Nil}(S)=\mathrm{Nil}(R)S$.

In particular, in case α is an automorphism, S satisfies the Köhte conjecture. Moreover, let R be an SPA-ring. Then a reversible, Baer, quasi-Baer and other kinds of rings R are characterized in terms of $R[x;\alpha]$, $R[x,x^{-1};\alpha]$ and $R[[x;\alpha]]$. Examples of nonreduced SPA-rings are also given.

Reviewer: George Szeto (Peoria)

MSC:

16W60	Valuations, completions, formal power series and related constructions (associative rings and algebras)	Cited in **7** Documents
16S36	Ordinary and skew polynomial rings and semigroup rings	
16N80	General radicals and associative rings	
16P60	Chain conditions on annihilators and summands: Goldie-type conditions	

Keywords:

Armendariz rings; Baer rings; Jacobson radical; skew polynomial rings; skew power series rings; SPA-rings

Full Text: DOI

References:

[1] DOI: 10.4153/CJM-1956-040-9 · Zbl 0072.02404 · doi:10.4153/CJM-1956-040-9

[2] DOI: 10.1090/S0002-9939-1956-0075933-2· doi:10.1090/S0002-9939-1956-0075933-2
[3] DOI: 10.1080/00927879808826274 · Zbl 0915.13001 · doi:10.1080/00927879808826274
[4] DOI: 10.1017/S1446788700029190 · Zbl 0292.16009 · doi:10.1017/S1446788700029190
[5] DOI: 10.1007/BF02760658 · Zbl 0436.16002 · doi:10.1007/BF02760658
[6] DOI: 10.1017/S0004972700042052 · Zbl 0191.02902 · doi:10.1017/S0004972700042052
[7] DOI: 10.1017/S0004972700022000 · Zbl 0952.16009 · doi:10.1017/S0004972700022000
[8] Birkenmeier G. F., Kyungpook Math. J. 40 pp 247– (2000)
[9] DOI: 10.1081/AGB-100001530 · Zbl 0991.16005 · doi:10.1081/AGB-100001530
[10] DOI: 10.1016/S0022-4049(00)00055-4 · Zbl 0987.16018 · doi:10.1016/S0022-4049(00)00055-4
[11] DOI: 10.1080/00927879108824242 · Zbl 0733.16007 · doi:10.1080/00927879108824242
[12] DOI: 10.1215/S0012-7094-67-03446-1 · Zbl 0204.04502 · doi:10.1215/S0012-7094-67-03446-1
[13] DOI: 10.1112/S0024609399006116 · Zbl 1021.16019 · doi:10.1112/S0024609399006116
[14] DOI: 10.5565/PUBLMAT_33289_09 · Zbl 0702.16015 · doi:10.5565/PUBLMAT$_3$3289$_0$9
[15] DOI: 10.1112/jlms/s2-28.1.8 · Zbl 0518.16003 · doi:10.1112/jlms/s2-28.1.8
[16] Ferrero M., Math. J. Okayama Univ. 29 pp 119– (1987)
[17] Goodearl K. R., An Introduction to Noncommutative Noetherian Rings (1989) · Zbl 0679.16001
[18] DOI: 10.1081/AGB-120016752 · Zbl 1042.16014 · doi:10.1081/AGB-120016752
[19] Hong C. Y., Algebra Colloq. 13 (2) pp 253– (2006) · Zbl 1095.16014 · doi:10.1142/S100538670600023X
[20] DOI: 10.1081/AGB-120013179 · Zbl 1023.16005 · doi:10.1081/AGB-120013179
[21] DOI: 10.1112/jlms/s2-10.3.281 · Zbl 0313.16011 · doi:10.1112/jlms/s2-10.3.281
[22] DOI: 10.1112/jlms/s2-25.3.435 · Zbl 0486.16002 · doi:10.1112/jlms/s2-25.3.435
[23] Kaplansky I., Rings of Operators (1965) · Zbl 0174.18503
[24] DOI: 10.1006/jabr.1999.8017 · Zbl 0957.16018 · doi:10.1006/jabr.1999.8017
[25] Krempa J., Algebra Colloq. 3 (4) pp 289– (1996)
[26] Lam T. Y., A first course in noncommutative rings (2000)
[27] Lee T. K., Houston J. Math. 29 (3) pp 583– (2003)
[28] DOI: 10.1081/AGB-120037221 · Zbl 1068.16037 · doi:10.1081/AGB-120037221
[29] DOI: 10.1016/S0021-8693(03)00301-6 · Zbl 1045.16001 · doi:10.1016/S0021-8693(03)00301-6
[30] DOI: 10.1081/AGB-100002173 · Zbl 1005.16027 · doi:10.1081/AGB-100002173
[31] DOI: 10.1080/00927870701718849 · Zbl 1142.16016 · doi:10.1080/00927870701718849
[32] DOI: 10.1080/00927877708822194 · Zbl 0355.16020 · doi:10.1080/00927877708822194
[33] DOI: 10.1215/S0012-7094-70-03718-X · Zbl 0219.16010 · doi:10.1215/S0012-7094-70-03718-X
[34] DOI: 10.3792/pjaa.73.14 · Zbl 0960.16038 · doi:10.3792/pjaa.73.14
[35] DOI: 10.1090/S0002-9939-1976-0419512-6· doi:10.1090/S0002-9939-1976-0419512-6
[36] DOI: 10.1081/AGB-120005825 · Zbl 1018.16023 · doi:10.1081/AGB-120005825

Mohammadi, R.; Moussavi, A.; Zahiri, M.
Weak McCoy Ore extensions. (English) Zbl 1230.16025
Int. Math. Forum 6, No. 1-4, 75-86 (2011).

Summary: A ring R is called nil-semicommutative if for every $a, b \in \operatorname{nil}(R)$, $ab = 0$ implies $aRb = 0$. *P. P. Nielsen* [in J. Algebra 298, No. 1, 134-141 (2006; Zbl 1110.16036)] proves that reversible rings are McCoy and gives an example of a semicommutative ring which is not right McCoy. At the same time, he also shows that semicommutative rings do have a property close to the McCoy condition. According to *Sh. Ghalandarzadeh* and *M. Khoramdel* [Thai J. Math. 6, No. 2, 337-342 (2008; Zbl 1193.16028)] and *L. Ouyang* and *H. Chen* [Extensions of weak McCoy rings, preprint], a ring R is said to be right weak McCoy if the equation $f(x)g(x) = 0$, where $f(x) = \sum_{i=0}^{m} a_i x^i, g(x) = \sum_{j=0}^{n} b_j x^j \in R[x] \setminus \{0\}$, implies that there exists $s \in R \setminus \{0\}$ such that $a_i s \in \operatorname{nil}(R)$ for all $0 \leq i \leq m$. Weak McCoy rings are a common generalization of Mc-Coy rings and semicommutative rings. For every ring R, the n-by-n upper triangular

matrix ring $T_n(R)$ is weak McCoy.

For each nil-semicommutative ring R, we prove that, if R is α-compatible then $R[x;\alpha]$ is weak McCoy and when R is δ-compatible then $R[x;\delta]$ is weak McCoy.

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings
16N40 Nil and nilpotent radicals, sets, ideals, associative rings
16U80 Generalizations of commutativity (associative rings and algebras)
16W20 Automorphisms and endomorphisms
16S50 Endomorphism rings; matrix rings

Keywords:

Ore extensions; nil-semicommutative rings; weak McCoy rings; reversible rings

Full Text: Link

Mokhtari, S.; **Kordi, A.**; **Moussavi, A.**; **Ahmadi, A.**
On LI-ideals of lattice implication algebras. (English) Zbl 1382.03087
J. Math. Appl. 32, 67-74 (2010).

Summary: We introduce the notions of a positive implicative LI-ideal and an associative LI-ideal in a lattice implication algebra and discuss some of their properties. Connections to related classes are investigated and equivalent conditions for both a positive implicative LI-ideal and an associative LI-ideal are provided.

MSC:

03G25 Other algebras related to logic
06B10 Lattice ideals, congruence relations

Alhevaz, A.; **Moussavi, A.**
Weak McCoy rings relative to a monoid. (English) Zbl 1218.16032
Int. Math. Forum 5, No. 45-48, 2341-2350 (2010).

Summary: *P. P. Nielsen* [in J. Algebra 298, No. 1, 134-141 (2006; Zbl 1110.16036)] proves that reversible rings are McCoy and gives an example of a semi-commutative ring that is not right McCoy. At the same time, he also shows that semi-commutative rings do have a property close to the McCoy condition. For a monoid M, we introduce weak M-McCoy rings, which are a generalization of McCoy rings and M-Armendariz rings, and we investigate their properties. Every semicommutative ring is weak M-McCoy for any unique product monoid and any strictly totally ordered monoid M. Moreover, we prove that for an ideal I of R, if I is semi-commutative and R/I is weak M-Armendariz, then R is weak M-McCoy for any strictly totally ordered monoid M. We show that for any nonzero ring R and any monoid M, the n-by-n upper triangular matrix ring $T_n(R)$ and the ring $R[x]/\langle x^n\rangle$, where $\langle x_n\rangle$ is the ideal generated by x^n and n is a positive integer, are weak M-McCoy. Finally we construct various examples of weak McCoy rings by reviewing and extending some results concerning the structure of nilpotent elements of a ring R.

MSC:

16U80 Generalizations of commutativity (associative rings and algebras)
16S36 Ordinary and skew polynomial rings and semigroup rings
20M25 Semigroup rings, multiplicative semigroups of rings
16S50 Endomorphism rings; matrix rings
16E50 von Neumann regular rings and generalizations (associative algebraic aspects)

Keywords:

semi-commutative rings; unique product monoids; weak McCoy rings; reversible rings; Armendariz rings; triangular matrix rings

Full Text: Link

Alhevaz, A.; **Moussavi, A.**
On α-skew quasi Armendariz modules. (English) Zbl 1219.16025
Int. Math. Forum 5, No. 45-48, 2331-2340 (2010).

Summary: Let R be a ring and α be a ring endomorphism of R. We introduce α-skew quasi-Armendariz modules as a generalization of quasi-Armendariz rings and modules. Some properties of this generalization and the relationship between an R-module M_R and the general polynomial module $M[x]$ over the skew polynomial ring $R[x;\alpha]$ are established. Among other results, we show that there is a strong connection of the Baer, quasi-Baer and the p.p.-property of the two modules, respectively. As a consequence we extend and unify several known results.

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings
16W20 Automorphisms and endomorphisms
16P60 Chain conditions on annihilators and summands: Goldie-type conditions

Keywords:

polynomial modules; skew polynomial rings; Baer modules; quasi-Baer modules; skew quasi-Armendariz modules; quasi-Armendariz rings

Full Text: Link

Alimoradi, M. R.; **Kordi, A.**; **Moussavi, A.**; **Ahmadi, A.**
Soft sets and soft rings. (English) Zbl 1209.16038
Int. J. Appl. Math. 23, No. 4, 583-595 (2010).

Summary: *D. Molodtsov* [Comput. Math. Appl. 37, No. 4-5, 19-31 (1999; Zbl 0936.03049)] introduced the concept of soft set theory, which can be used as a generic mathematical tool for dealing with uncertainty. In this paper we introduce the basic properties of soft sets, and compare soft sets to the related concepts of fuzzy sets and rough sets. We then give a definition of soft rings, and derive their basic properties using Molodtsov's definition of the soft sets.

MSC:

16Y99 Generalizations
03E72 Theory of fuzzy sets, etc.

Keywords:

soft sets; soft rings; soft ideals; fuzzy sets; rough sets

Habibi, M.; **Moussavi, A.**; **Manaviyat, R.**
On skew quasi-Baer rings. (English) Zbl 1213.16016
Commun. Algebra 38, No. 10, 3637-3648 (2010).

Let R be a ring with 1, $\alpha\colon R \to R$ a monomorphism, δ an α-derivation of R, and $R[x;\alpha,\delta]$ the Ore extension of R. An ideal I of R is called an α-ideal (resp., α-invariant ideal) if $\alpha(I) \subset I$ (resp., $\alpha(I) = I$), I is called a δ-ideal if $\delta(I) \subset I$, and I is called an (α,δ)-ideal (resp., (α,δ)-invariant ideal) if I is both an α-ideal (resp., α-invariant ideal) and a δ-ideal. A ring R is a δ-quasi Baer (resp., α-quasi Baer) if the right annihilator of every δ-ideal (resp., α-ideal) is generated by an idempotent, and R is an (α,δ)-Baer (resp., (α,δ)-quasi Baer) if the right annihilator of every nonempty (α,δ)-subset (resp., (α,δ)-ideal) is generated, as a right ideal, by an idempotent.

Then the authors characterize the classes of (α,δ)-quasi Baer, (α,δ)-Baer, and α-compatible (α,δ)-quasi Baer rings R in terms of their Ore extensions, where a ring R is called α-compatible if for each $a, b \in R$, $ab = 0$ if and only if $a\alpha(b) = 0$.

Theorem 1. Let α be an automorphism such that $\alpha\delta = \delta\alpha$. Then the following are equivalent: (1) R is (α, δ)-quasi Baer; (2) $R[x; \alpha, \delta]$ is α-quasi Baer; (3) $R[x; \alpha, \delta]$ is $(\alpha, \overline{\delta})$-quasi Baer for every extended α-derivation $\overline{\delta}$ on $R[x; \alpha, \delta]$ of δ.

Theorem 2. Let R be ring with IFP (i.e., $ab = 0$ implies $aRb = 0$ for $a, b \in R$) and α an automorphism. Then the following are equivalent: (1) R is (α, δ)-Baer; (2) $R[x; \alpha, \delta]$ is α-Baer; (3) $R[x; \alpha, \delta]$ is $(\alpha, \overline{\delta})$-Baer for every extended derivation $\overline{\delta}$ of δ on $R[x; \alpha, \delta]$.

Also, Theorem 2 holds for an α-compatible ring with IFP where α is a monomorphism.

Reviewer: George Szeto (Peoria)

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings
16P60 Chain conditions on annihilators and summands: Goldie-type conditions
16W20 Automorphisms and endomorphisms

Cited in **10** Documents

Keywords:

skew quasi-Baer rings; skew polynomial rings

Full Text: DOI

References:

[1] DOI: 10.1017/S1446788700029190 · Zbl 0292.16009 · doi:10.1017/S1446788700029190
[2] DOI: 10.1080/00927878308822865 · Zbl 0505.16004 · doi:10.1080/00927878308822865
[3] DOI: 10.1081/AGB-100001530 · Zbl 0991.16005 · doi:10.1081/AGB-100001530
[4] DOI: 10.1016/S0022-4049(00)00055-4 · Zbl 0987.16018 · doi:10.1016/S0022-4049(00)00055-4
[5] DOI: 10.1215/S0012-7094-67-03446-1 · Zbl 0204.04502 · doi:10.1215/S0012-7094-67-03446-1
[6] Han J., J. Korean Math. Soc. 42 pp 53– (2005)
[7] DOI: 10.1080/00927870008827058 · Zbl 0965.16015 · doi:10.1080/00927870008827058
[8] DOI: 10.1007/s10474-005-0191-1 · Zbl 1081.16032 · doi:10.1007/s10474-005-0191-1
[9] DOI: 10.1081/AGB-100002171 · Zbl 0996.16020 · doi:10.1081/AGB-100002171
[10] DOI: 10.1016/S0022-4049(99)00020-1 · Zbl 0982.16021 · doi:10.1016/S0022-4049(99)00020-1
[11] Hong C. Y., Algebra Colloquium 13 pp 253– (2006)
[12] Kaplansky I., Rings of Operators (1965) · Zbl 0174.18503
[13] Krempa J., Algebra Colloq. 3 pp 289– (1966)
[14] Moussavi A., Scientiae Mathematicae Japonicae pp 405– (2006)
[15] DOI: 10.1080/00927870802104337 · Zbl 1154.16019 · doi:10.1080/00927870802104337
[16] DOI: 10.1215/S0012-7094-70-03718-X · Zbl 0219.16010 · doi:10.1215/S0012-7094-70-03718-X

Manaviyat, R.; **Moussavi, A.**; **Habibi, M.**
Principally quasi-Baer skew power series rings. (English) Zbl 1202.16024
Commun. Algebra 38, No. 6, 2164-2176 (2010).

Let R be a ring with 1. If the right (left) annihilator of a principal right (left) ideal of R is generated by an idempotent, then R is called right (left) principally quasi-Baer (p.q.-Baer). Let α be an endomorphism of R. Then R is called α-compatible if for each $a, b \in R$, $ab = 0$ if and only if $a\alpha(b) = 0$. Denote the skew power series ring by $R[\![x; \alpha]\!]$ and the skill Laurent series ring by $R[\![x, x^{-1}; \alpha]\!]$.

An idempotent $e \in R$ is left (right) semicentral if $ere = re$ $(ere = er)$ for all $r \in R$, and the set of left (right) semicentral idempotents is denoted by $S^l(R)$ $(S_r(R))$. A set of countable idempotents $\{e_0, e_1, e_2, \dots\}$ of R is said to have a generalized join e if $e = e^2$ such that (i) $e_iR(1-e) = 0$ and (ii) if $d = d^2$ and $e_i R(1-d) = 0$ implies $eR(1-d) = 0$. A set $\{e_0, e_1, e_2, \dots\} \subset S_r(R)$ is said to have a generalized countable join e if, given $a \in R$, there exists $e \in S_r(R)$ such that (i) $e_i e = e_i$ for all $i \geq 1$, and (ii) if $e_i e = e_i$ for all $i \geq 1$, then $ea = e$.

Examples of semiprime p.q.-Baer rings and non-semiprime α-compatible p.q.-Baer rings are given, respectively, such that every countable subset of $S_r(R)$ has a generalized countable join, and a right p.q.-Baer $R[\![x, x^{-1}; \alpha]\!]$ is characterized.

Theorem. Let α be an automorphism of R and R be α-compatible. Then $R[\![x, x^{-1}; \alpha]\!]$ is right p.q.-Baer if and only if R is right p.q.-Baer and any countable subset of $S_r(R)$ has a generalized countable join. Moreover, it is shown that the above theorem holds when R is α-compatible for an endomorphism α. Similar results are also obtained for $R[\![x; \alpha]\!]$ and $R[\![x]\!]$.

Reviewer: George Szeto (Peoria)

MSC:

Cited in **9** Documents

16S36	Ordinary and skew polynomial rings and semigroup rings
16W60	Valuations, completions, formal power series and related constructions (associative rings and algebras)
16P60	Chain conditions on annihilators and summands: Goldie-type conditions
16W20	Automorphisms and endomorphisms
16E50	von Neumann regular rings and generalizations (associative algebraic aspects)

Keywords:

annihilators; quasi-Baer rings; p.q.-Baer rings; semicentral idempotents; skew power series rings; Laurent series rings

Full Text: DOI

References:

[1] DOI: 10.1017/S1446788700029190 · Zbl 0292.16009 · doi:10.1017/S1446788700029190
[2] DOI: 10.1080/00927878308822865 · Zbl 0505.16004 · doi:10.1080/00927878308822865
[3] Birkenmeier G. F., Contemp. Math. 259 pp 67– (2000)
[4] Birkenmeier G. F., Kyungpook Math. J. 40 pp 243– (2000)
[5] DOI: 10.1081/AGB-100001530 · Zbl 0991.16005 · doi:10.1081/AGB-100001530
[6] DOI: 10.1016/S0022-4049(00)00055-4 · Zbl 0987.16018 · doi:10.1016/S0022-4049(00)00055-4
[7] Chattters A. W., Rings with Chain Conditions (1980)
[8] DOI: 10.1215/S0012-7094-67-03446-1 · Zbl 0204.04502 · doi:10.1215/S0012-7094-67-03446-1
[9] Fraser J. A., Math. Japonica 34 pp 715– (1989)
[10] DOI: 10.1007/s10474-005-0191-1 · Zbl 1081.16032 · doi:10.1007/s10474-005-0191-1
[11] Hashemi E., Bull. Iran. Math. Soc. 29 pp 65– (2003)
[12] Hashemi E., Stud. Scie. Math. Hungar. 45 pp 469– (2008)
[13] DOI: 10.4134/BKMS.2004.41.4.657 · Zbl 1065.16025 · doi:10.4134/BKMS.2004.41.4.657
[14] DOI: 10.1016/S0022-4049(01)00053-6 · Zbl 1007.16020 · doi:10.1016/S0022-4049(01)00053-6
[15] DOI: 10.1016/S0022-4049(99)00020-1 · Zbl 0982.16021 · doi:10.1016/S0022-4049(99)00020-1
[16] Huang F. K., Taiwanese J. Math. 45 pp 469– (2008)
[17] DOI: 10.1112/jlms/s2-25.3.435 · Zbl 0486.16002 · doi:10.1112/jlms/s2-25.3.435
[18] Kaplansky I., Rings of Operators (1965) · Zbl 0174.18503
[19] Krempa J., Algebra Colloq. 3 pp 289– (1996)
[20] DOI: 10.1081/AGB-120005825 · Zbl 1018.16023 · doi:10.1081/AGB-120005825
[21] DOI: 10.1081/AGB-200063514 · Zbl 1088.16018 · doi:10.1081/AGB-200063514
[22] DOI: 10.1142/S0219498808002497 · Zbl 1149.19002 · doi:10.1142/S0219498808002497
[23] Tominaga H., Math. J. Okayama Univ. 18 pp 117– (1976)

Kordi, A.; **Moussavi, A.**; **Ahmadi, A.**
Algorithms and computations for (m,n)-fold p-ideals in BCI-algebras. (English)
Zbl 1193.06020
J. Appl. Log. 8, No. 1, 22-32 (2010).

Summary: In [*C. Lele, S. Moutari* and *M. L. N. Mbah*, J. Appl. Log. 6, No. 4, 580–588 (2008; Zbl 1160.06010)], the notion of an n-fold p-ideal in a BCI-algebra was introduced as a generalization of p-ideals in BCI-algebras. Here we show that an ideal is an n-fold p-ideal if and only if it is a p-ideal, and that the results of the mentioned paper are the same as those in [*Y. B. Jun* and *J. Meng*, Math. Jap. 40, No. 2, 271–282 (1994; Zbl 0808.06018)] and [*X. Zhang, H. Jiang* and *S. A. Bhatti*, J. Math., Punjab Univ. 27, 121–128 (1994; Zbl 0866.06007)]. We observe that the notions of (m,n)-fold p-ideals and fuzzy (m,n)-fold p-ideals, for each positive integers m,n, are indeed the natural generalization of p-ideals and fuzzy p-ideals, respectively. A characterization of (m,n)-fold p-ideals and fuzzy (m,n)-fold p-ideals is given, and conditions for an ideal (respectively fuzzy ideal) to be an (m,n)-fold p-ideal (respectively fuzzy (m,n)-fold p-ideal) are studied. We also establish extension properties for (m,n)-fold p-ideals and fuzzy (m,n)-fold p-ideals. Furthermore, we construct some algorithms to determine whether certain finite sets provided with a well-defined operation, are BCI-algebras, (m,n)-fold p-ideals, fuzzy subsets or fuzzy (m,n)-fold p-ideals.

MSC:

06F35 BCK-algebras, BCI-algebras
68W30 Symbolic computation and algebraic computation

Keywords:

BCI-algebra; fuzzy point; p-ideal; fuzzy ideal

Full Text: DOI
References:

[1] Bunder, M. W., BCK-algebras and their corresponding logics, J. Non-Classical Logic, 15-24 (1983) · Zbl 0558.03033
[2] Dudek, W. A., On group-like BCI-algebras, Demonstratio Math., 21, 369-376 (1988) · Zbl 0665.06011
[3] Dudek, W. A.; Jun, Y. B., Quasi \(p\)-ideals of quasi BCI-algebras, Quasigroups Related Systems, 11, 25-38 (2004) · Zbl 1051.06014
[4] Iski, K.; Tanaka, S., Ideal theory of BCK-algebras, Math. Japon., 21, 351-366 (1976) · Zbl 0355.02041
[5] Iski, K., On BCI-algebras, Math. Seminar Notes, 8, 125-130 (1980) · Zbl 0434.03049
[6] Iski, K., An algebra related with a propositional calculus, Proc. Japan Acad., 42, 26-29 (1966) · Zbl 0207.29304
[7] Iski, K., On axiom systems of propositional calculi. XXI, Proc. Japan Acad., 42, 441-442 (1966) · Zbl 0156.24905
[8] Jun, Y. B.; Meng, J., Fuzzy \(P\)-ideals in BCI-algebra, Math. Japon., 2, 271-282 (1994) · Zbl 0808.06018
[9] Jun, Y. B.; Song, S. Z.; Lele, C., Foldness of quasi-associative ideals in BCI-algebras, Math. Japon., 6, 227-231 (2002)
[10] Kordi, A.; Moussavi, A., On fuzzy ideals of BCI-algebra, Pure Math. Appl., 18, 3-4, 301-310 (2007) · Zbl 1224.06040
[11] A. Kordi, A. Moussavi, Quasi \(a\)-ideals of quasi BCI-algebras, Far East J. Math. Sci., in press; A. Kordi, A. Moussavi, Quasi \(a\)-ideals of quasi BCI-algebras, Far East J. Math. Sci., in press · Zbl 1208.06008
[12] Lele, C.; Moutari, S.; Ndeffo Mbah, M. L., Algorithms and computations for foldedness of \(P\)-ideals in BCI-algebras, J. Appl. Logic, 6, 4, 580-588 (2008) · Zbl 1160.06010
[13] Liu, Y. L.; Meng, J., Fuzzy ideals in BCI-algebras, Fuzzy Sets and Systems, 123, 227-237 (2001) · Zbl 1018.06017
[14] Meng, J.; Jun, Y. B., BCK-algebras (1994), Kyung Moon Sa Co.: Kyung Moon Sa Co. Seoul, Korea · Zbl 0906.06015
[15] Meng, J.; Guo, X., On fuzzy ideals in BCK/BCI-algebras, Fuzzy Sets and Systems, 149, 509-525 (2005) · Zbl 1070.06010
[16] Meredith, C. A.; Prior, A. N., Notes on the axiomatics of the propositional calculus, Notre Dame J. Formal Logic, 4, 171-187 (1963) · Zbl 0146.00801
[17] Xi, O. G., Fuzzy BCK-algebras, Math. Japon., 36, 935-942 (1991) · Zbl 0744.06010
[18] Zadeh, L. A., Fuzzy sets, Inform. Control, 8, 338-353 (1965) · Zbl 0139.24606
[19] Zhang, X. H.; Hao, J.; Bhatti, S. A., On \(p\)-ideals of a BCI-algebra, Punjab Univ. J. Math., 27, 121-128 (1994) · Zbl

0866.06007

Nasr-Isfahani, A. R.; **Moussavi, A.**
On a quotient of polynomial rings. (English) Zbl 1200.16038
Commun. Algebra 38, No. 2, 567-575 (2010).

Summary: For a ring R we study the ideal theory of a triangular matrix ring and use it to determine radicals and prime ideals of the ring $R[x]/\langle x^n\rangle$, for each positive integer n, where $R[x]$ is the ring of polynomials in an indeterminant x, and $\langle x^n\rangle$ is the ideal generated by x^n.

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings
16S50 Endomorphism rings; matrix rings
16D25 Ideals in associative algebras
16N80 General radicals and associative rings

Cited in **6** Documents

Keywords:

Jacobson radical; polynomial rings; triangular matrix rings; prime ideals

Full Text: DOI
References:

[1] Birkenmeier G. F., Ring Theory pp 102– (1992)
[2] Lam T. Y., A First Course in Noncommutative Rings (2000)
[3] Ikeda M., Osaka J. Math. 4 pp 203– (1952)
[4] DOI: 10.1016/S0021-8693(03)00301-6 · Zbl 1045.16001 · doi:10.1016/S0021-8693(03)00301-6
[5] DOI: 10.1017/CBO9780511546525· doi:10.1017/CBO9780511546525
[6] DOI: 10.1090/S0002-9947-1973-0338058-9· doi:10.1090/S0002-9947-1973-0338058-9

Nasr-Isfahani, A. R.; **Moussavi, A.**
On Goldie prime ideals of Ore extensions. (English) Zbl 1200.16037
Commun. Algebra 38, No. 1, 1-10 (2010).

Summary: Let R be a ring and α an injective endomorphism of R, which is not assumed to be surjective. Necessary and sufficient conditions are given for all prime ideals in a skew polynomial ring $R[x;\alpha]$ or skew Laurent ring $R[x,x^{-1};\alpha]$ to be left Goldie. As a consequence, we obtain a generalization of a result of *A. Goldie* and *G. Michler* [J. Lond. Math. Soc., II. Ser. 9, 337-345 (1974; Zbl 0294.16019)].

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings
16P60 Chain conditions on annihilators and summands: Goldie-type conditions
16W60 Valuations, completions, formal power series and related constructions (associative rings and algebras)
16D25 Ideals in associative algebras
16N60 Prime and semiprime associative rings

Keywords:

Goldie rings; monomorphisms; Ore extensions; skew polynomial rings; Goldie prime ideals

Full Text: DOI
References:

[1] DOI: 10.1112/jlms/s2-29.3.418 · Zbl 0522.16004 · doi:10.1112/jlms/s2-29.3.418

[2] DOI: 10.1080/00927878508823250 · Zbl 0567.16002 · doi:10.1080/00927878508823250

[3] Bergman , G. (1973). On \(\mathbb{Z}\)-Graded Rings.Unpublished typescript , Berkeley : University of California .

[4] Borho W., Primideale in Einhiillenden Auflsbarer Lie-Algebren 357 (1978)

[5] DOI: 10.1016/0021-8693(78)90213-2 · Zbl 0384.16008 · doi:10.1016/0021-8693(78)90213-2

[6] DOI: 10.1112/jlms/s2-9.2.337 · Zbl 0294.16019 · doi:10.1112/jlms/s2-9.2.337

[7] DOI: 10.1017/CBO9780511841699· doi:10.1017/CBO9780511841699

[8] DOI: 10.1016/0021-8693(79)90341-7 · Zbl 0399.16015 · doi:10.1016/0021-8693(79)90341-7

[9] DOI: 10.1016/0021-8693(72)90033-6 · Zbl 0233.16003 · doi:10.1016/0021-8693(72)90033-6

[10] DOI: 10.1112/jlms/s2-25.3.435 · Zbl 0486.16002 · doi:10.1112/jlms/s2-25.3.435

[11] Lam T. Y., Grad. Texts in Math. 189, in: Lectures on Modules and Rings (1999)· doi:10.1007/978-1-4612-0525-8

[12] McConnell J. C., Noncommutative Noetherian Rings (1987) · Zbl 0644.16008

[13] DOI: 10.1017/S0013091500018319 · Zbl 0804.16029 · doi:10.1017/S0013091500018319

[14] Mushrub V. A., Contemp. Math. 131 pp 363– (1992)· doi:10.1090/conm/131.2/1175844

[15] DOI: 10.1080/00927877708822194 · Zbl 0355.16020 · doi:10.1080/00927877708822194

[16] DOI: 10.1112/plms/s3-42.3.559 · Zbl 0469.16002 · doi:10.1112/plms/s3-42.3.559

Shirvani-Ghadikolai, M.; Moussavi, A.; Kordi, A.; Ahmadi, A.
On n-fold filters in BL-algebras. (English) Zbl 1188.03051
J. Algebra Number Theory, Adv. Appl. 2, No. 1, 27-42 (2009).

Summary: The notions of n-fold fantastic basic logic and the related algebras, n-fold fantastic BL-algebras, are introduced. We also define n-fold fantastic filters, prove some relations between these filters and construct quotient algebras via these filters.

MSC:

03G25 Other algebras related to logic
03B52 Fuzzy logic; logic of vagueness
06D35 MV-algebras
06F35 BCK-algebras, BCI-algebras

Keywords:

n-fold fantastic basic logic; n-fold fantastic BL-algebra; n-fold fantastic filter; quotient algebra

Nasr-Isfahani, Alireza R.; Moussavi, Ahmad
Skew Laurent polynomial extensions of Baer and p.p.-rings. (English) Zbl 1188.16023
Bull. Korean Math. Soc. 46, No. 6, 1041-1050 (2009).

Let R be a ring with 1, α an endomorphism of R, $R[x;\alpha]$ the skew polynomial ring, and $R[x,x^{-1};\alpha]$ the skew Laurent polynomial ring. Then R is called α-skew Armendariz if for $f(x)=\sum_{i=0}^m a_ix^i, g(x)=\sum_{j=0}^n a_jx^j\in R[x;\alpha]$, $f(x)g(x)=0$ implies $a_i\alpha^i(b_j)=0$ for each i,j. A ring R is called α-rigid if $a\alpha(a)=0$ for $a\in R$ implies $a=0$.

The authors show some properties of an α-skew Armendariz ring.

Theorem 1. The following are equivalent: (1) R is α-rigid; (2) α is injective, R is reduced and α-skew Armendariz; (3) $R[x,x^{-1};\alpha]$ is reduced.

Moreover, let α be a monomorphism of R, and R an α-skew Armendariz ring. Then it is shown that (1)

R is a Baer ring if and only if so is $R[x, x^{-1}; \alpha]$, and (2) R is a p.p.-ring if and only if so is $R[x, x^{-1}; \alpha]$.

Reviewer: George Szeto (Peoria)

MSC:

16S36	Ordinary and skew polynomial rings and semigroup rings	Cited in **5** Documents
16W20	Automorphisms and endomorphisms	
16W60	Valuations, completions, formal power series and related constructions (associative rings and algebras)	
16P60	Chain conditions on annihilators and summands: Goldie-type conditions	

Keywords:

skew polynomial rings; skew Laurent polynomial rings; Baer rings; p.p.-rings; rigid rings; skew-Armendariz rings

Full Text: DOI

Nasr-Isfahani, A. R.; **Moussavi, A.**

On weakly rigid rings. (English) Zbl 1184.16026

Glasg. Math. J. 51, No. 3, 425-440 (2009).

Let R be a ring with 1 and α a monomorphism of R. Then R is called α-weakly rigid if, for each $a, b \in R$, $aRb = 0$ if and only if $a\alpha(Rb) = 0$. Let δ be a derivation of R. Then R is called δ-weakly rigid if, for each $a, b \in R$, $aRb = 0$ implies $a\delta(b) = 0$; and for an α-derivation δ, R is called (α, δ)-weakly rigid if it is both α-weakly and δ-weakly rigid. These rings are characterized in terms of matrix rings.

Theorem 1. The following are equivalent: (1) R is α-weakly rigid (resp. δ-weakly rigid). (2) The matrix ring $M_n(R)$ is $\overline{\alpha}$-weakly rigid (resp. $\overline{\delta}$-weakly rigid) for every positive integer n where $\overline{\alpha}$ and $\overline{\delta}$ are induced by α and δ. (3) $M_n(R)$ is $\overline{\alpha}$-weakly rigid (resp. $\overline{\delta}$-weakly rigid) for some n. Statements (2) and (3) also hold for upper triangular matrix ring $T_n(R)$.

Theorem 2. If R is an Ore ring and (α, δ)-weakly rigid, then the classical quotient ring of R is $(\overline{\alpha}, \overline{\delta})$-weakly rigid where $\overline{\alpha}$ and $\overline{\delta}$ are induced by α and δ such that $\overline{\alpha}(rc^{-1}) = \alpha(r)(\alpha(c))^{-1}$ and $\overline{\delta}(rc^{-1}) = \delta(r) - rc^{-1}\delta(c)(\alpha(c))^{-1}$.

Moreover, for an (α, δ)-weakly rigid ring R, some properties of the skew polynomial ring $R[x; \alpha, \delta]$, the skew Laurent series ring $R[x, x^{-1}; \alpha]$, and the skew power series ring $R[[x; \alpha]]$ are given. It is shown that R is quasi-Baer if and only if so is any one of these skew extensions, and R is left principally quasi-Baer if and only if so is any one of $R[x]$, $R[x; \alpha, \delta]$ and $R[x, x^{-1}; \alpha]$, where a quasi-Baer ring (left principally quasi-Baer) is a ring such that the annihilator of each right and left (left principal) ideal is generated by an idempotent.

Reviewer: George Szeto (Peoria)

MSC:

16S36	Ordinary and skew polynomial rings and semigroup rings	Cited in **17** Documents
16W20	Automorphisms and endomorphisms	
16P60	Chain conditions on annihilators and summands: Goldie-type conditions	
16W60	Valuations, completions, formal power series and related constructions (associative rings and algebras)	
16S50	Endomorphism rings; matrix rings	
16W25	Derivations, actions of Lie algebras	
16S85	Associative rings of fractions and localizations	

Keywords:

weakly rigid rings; automorphisms; derivations; matrix rings; quasi-Baer rings; Ore rings; classical quotient rings; skew polynomial rings; skew Laurent series rings; skew power series rings

Full Text: DOI
References:

[1] DOI: 10.1081/AGB-120037221 · Zbl 1068.16037 · doi:10.1081/AGB-120037221
[2] Lee, Kyungpook Math. J. 38 pp 421– (1998)
[3] Kaplansky, Rings of operators (1965) · Zbl 0174.18503
[4] DOI: 10.1112/jlms/s2-25.3.435 · Zbl 0486.16002 · doi:10.1112/jlms/s2-25.3.435
[5] Hong, Algebra Colloq. 12 pp 399– (2005) · Zbl 1090.16010 · doi:10.1142/S1005386705000374
[6] DOI: 10.1215/S0012-7094-67-03446-1 · Zbl 0204.04502 · doi:10.1215/S0012-7094-67-03446-1
[7] DOI: 10.1016/S0022-4049(99)00020-1 · Zbl 0982.16021 · doi:10.1016/S0022-4049(99)00020-1
[8] DOI: 10.1016/j.jalgebra.2006.06.034 · Zbl 1161.16002 · doi:10.1016/j.jalgebra.2006.06.034
[9] DOI: 10.1016/S0022-4049(01)00053-6 · Zbl 1007.16020 · doi:10.1016/S0022-4049(01)00053-6
[10] Birkenmeier, Kyungpook Math. J. 40 pp 247– (2000)
[11] DOI: 10.1007/s10474-005-0191-1 · Zbl 1081.16032 · doi:10.1007/s10474-005-0191-1
[12] DOI: 10.1081/AGB-100001530 · Zbl 0991.16005 · doi:10.1081/AGB-100001530
[13] DOI: 10.1080/00927870008827058 · Zbl 0965.16015 · doi:10.1080/00927870008827058
[14] DOI: 10.1016/S0022-4049(00)00055-4 · Zbl 0987.16018 · doi:10.1016/S0022-4049(00)00055-4
[15] Faith, Module Theory pp 151– (1977)
[16] DOI: 10.1007/BF00050894 · Zbl 0771.16003 · doi:10.1007/BF00050894
[17] Birkenmeier, Pacific J. Math. 97 pp 283– (1981) · Zbl 0432.16010 · doi:10.2140/pjm.1981.97.283
[18] Berberian, Baer *-rings (1972)· doi:10.1007/978-3-642-15071-5
[19] DOI: 10.1017/S1446788700029190 · Zbl 0292.16009 · doi:10.1017/S1446788700029190
[20] DOI: 10.1007/s00013-003-0824-y · Zbl 1058.16011 · doi:10.1007/s00013-003-0824-y
[21] DOI: 10.1215/S0012-7094-70-03718-X · Zbl 0219.16010 · doi:10.1215/S0012-7094-70-03718-X
[22] DOI: 10.1142/S0219498808002771 · Zbl 1157.16008 · doi:10.1142/S0219498808002771
[23] DOI: 10.1080/00927870802104337 · Zbl 1154.16019 · doi:10.1080/00927870802104337
[24] Krempa, Algebra Colloq. 3 pp 289– (1996)

Kordi, A.; **Moussavi, A.**

Quasi a-ideals of quasi BCI-algebras. (English) $\boxed{\text{Zbl 1208.06008}}$

Far East J. Math. Sci. (FJMS) 33, No. 1, 19-31 (2009).

A fuzzy set x_α in a set X is called a fuzzy point if it takes the value 0 for all $y \in X$ such that $x \neq y$ and $\alpha \in (0,1]$ at $x \in X$, that is,

$$x_\alpha(y) = \begin{cases} 0 & (y \neq x) \\ \alpha & (y = x). \end{cases}$$

The authors introduce an operation $\odot$ in the set $\mathrm{FP}(X)$ of all fuzzy points in X as follows:

$$x_\alpha \odot y_\beta = (x * y)_{\min\{\alpha,\beta\}}.$$

They prove some basic results about quasi a-ideals of quasi BCI-algebras, where the subset $\mathrm{FP}(\mu)$ of all fuzzy points in a quasi BCI-algebra X is called a quasi a-ideal of $\mathrm{FP}(\mu)$ if for all $\delta \in \mathrm{IM}(\mu)$ and $x_\alpha, y_\beta, z_\gamma \in \mathrm{FP}(X)$, we have:

(i) $0_\delta \in \mathrm{FP}(\mu)$,

(ii) $(x_\alpha \odot z_\gamma) \odot (0_\delta \odot y_\beta)$, $z_\gamma \in \mathrm{FP}(\mu)$ implies $(y * x)_{\min\{\alpha,\beta,\gamma,\delta\}} \in \mathrm{FP}(\mu)$.

If we denote a fuzzy point x_α by (x,α) $(\in X \times (0,1])$ and consider the operation $\odot$ as

$$(x,\alpha)\odot(y,\beta)=(x*y,\min\{\alpha,\beta\}),$$

that is, consider a structure $(X\times(0,1],\odot)$, then all properties in this paper may have shorter proofs.

Reviewer: Michiro Kondo (Inzai)

MSC:

06F35 BCK-algebras, BCI-algebras

Cited in **1** Document

Keywords:

fuzzy a-ideal; quasi a-ideal; quasi BCI-algebra

Full Text: Link

Hashemi, Ebrahim; **Moussavi, Ahmad**; **Nasr-Isfahani, Alireza**

Skew power series extensions of principally quasi-Baer rings. (English) Zbl 1188.16021

Stud. Sci. Math. Hung. 45, No. 4, 469-481 (2008).

An associative ring R with unity is called right principally quasi-Baer if the right annihilator of every principal right ideal of R is generated by an idempotent [*G. F. Birkenmeier, J. Y. Kim* and *J. K. Park*, Commun. Algebra 29, No. 2, 639-660 (2001; Zbl 0991.16005)]. In this paper the authors give necessary and sufficient conditions for R under which the skew power series ring $R[\![x,\alpha]\!]$ and the Laurent power series ring $R[\![x,x^{-1},\alpha]\!]$ are right principally quasi-Baer.

Let α be an endomorphism of R. If the conditions $ab=0$ and $a\alpha(b)=0$ are equivalent for all $a,b\in R$, then we say that R is α-compatible. An idempotent $e\in R$ is said to be left semi-central if $ere=re$ for all $r\in R$.

Suppose that all semi-central idempotents of R are central and let R be an α-compatible ring. Then the main result asserts that the following statements are equivalent: (1) The ring $R[\![x,x^{-1},\alpha]\!]$ is right principally quasi-Baer; (2) The ring $R[\![x,\alpha]\!]$ is right principally quasi-Baer; (3) The ring R is right principally quasi-Baer and every countable family of idempotents in R has a generalized join in the set of all idempotents of R. – An example showing that the α-compatible condition on R is not superfluous, is given.

Reviewer: S. V. Mihovski (Plovdiv)

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings
16W60 Valuations, completions, formal power series and related constructions (associative rings and algebras)
16P60 Chain conditions on annihilators and summands: Goldie-type conditions

Cited in **1** Document

Keywords:

right principally quasi-Baer rings; right annihilators; α-compatible rings; skew power series rings; skew Laurent power series rings; semicentral idempotents

Full Text: DOI

Ghahramani, H.; **Moussavi, A.**

Differential polynomial rings of triangular matrix rings. (English) Zbl 1192.16026

Bull. Iran. Math. Soc. 34, No. 2, 71-96 (2008).

Let R be a ring with 1, δ a derivation of R, $I_x\colon R\to R$ the inner derivation of R for an $x\in R$, and $R[\theta,\delta]$ the differential polynomial ring with the usual addition of polynomials and $\theta a=a\theta+\delta(a)$ for any $a\in R$.

Let R and S be rings with derivations δ_R and δ_S, respectively, and M an $(R$-$S)$-bimodule. Then $\tau\colon M\to$

M is called a generalized derivation with respect to (δ_R, δ_S) on M, if $\tau(rm) = \delta_R(r)m + r\tau(m)$, $\tau(ms) = \tau(m)s + m\delta_S(s)$ for $r \in R$, $s \in S$, and $m \in M$. Let $T = \left(\begin{smallmatrix} R & M \\ 0 & S \end{smallmatrix}\right)$ be the generalized matrix ring. Then $d\colon T \to T$ is the derivation of T induced by $\tau\colon M \to M$ where $d\left(\begin{smallmatrix} r & m \\ 0 & s \end{smallmatrix}\right) = \begin{pmatrix} \delta_R(r) & \tau(m) \\ 0 & \delta_S(s) \end{pmatrix}$ for $r \in R$, $s \in S$, and $m \in M$.

The authors give an equivalent condition for a mapping $\Psi\colon \left(\begin{smallmatrix} R & M \\ 0 & S \end{smallmatrix}\right) \to \left(\begin{smallmatrix} R' & N \\ 0 & S' \end{smallmatrix}\right)$ such that $\Psi\left(\begin{smallmatrix} r & m \\ 0 & s \end{smallmatrix}\right) = \begin{pmatrix} \varphi_1(r) & T(m) \\ 0 & \varphi_2(s) \end{pmatrix}$ where $\varphi_1\colon R \to R'$ and $\varphi_2\colon S \to S'$ are homomorphisms and $T\colon M \to N$ is a generalized module homomorphism related to (φ_1, φ_2).

Next it is shown that a derivation $d\colon T \to T$, $d = \overline{d} + I_A$ where I_A is an inner derivation with $A \in T$ and $\overline{d}\left(\begin{smallmatrix} r & m \\ 0 & s \end{smallmatrix}\right) = \begin{pmatrix} \delta_R(r) & \tau(m) \\ 0 & \delta_S(s) \end{pmatrix}$ where τ is a generalized derivation of M. Moreover, a triangular representation of the differential polynomial ring $T[\theta; d]$ is obtained. Theorem. By keeping the above notations, $T[\theta; d] \cong \begin{pmatrix} R[x;\delta_R] & M[x,y;\tau] \\ 0 & S[y;\delta_S] \end{pmatrix}$ for some $(R[x; \delta_R], S[y; \delta_S])$-bimodule $M[x, y; \tau]$.

Reviewer: George Szeto (Peoria)

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings
16S50 Endomorphism rings; matrix rings
16W25 Derivations, actions of Lie algebras
16W20 Automorphisms and endomorphisms

Cited in **4** Documents

Keywords:

differential polynomial rings; homomorphisms; generalized upper triangular matrix rings; generalized derivations; inner derivations

Kordi, A.; **Moussavi, A.**; **Ahmadi, A.**

Fuzzy H-ideals of BCI-algebras with interval valued membership functions. (English) Zbl 1173.06009

Int. Math. Forum 3, No. 25-28, 1327-1338 (2008).

Some basic properties of fuzzy H-ideals of BCI-algebras are obtained.

Reviewer: Zhan Jianming (Enshi)

MSC:

06F35 BCK-algebras, BCI-algebras

Keywords:

BCI-algebra; H-ideal; i-v fuzzy H-ideal

Full Text: Link

Nasr-Isfahani, A. R.; **Moussavi, A.**

Baer and quasi-Baer differential polynomial rings. (English) Zbl 1154.16019

Commun. Algebra 36, No. 9, 3533-3542 (2008).

Let R be a ring with 1, δ a derivation of R, and $R[x; \delta]$ the differential polynomial ring which is the polynomial ring such that $xa = ax + \delta(a)$ for any $a \in R$. A ring R is called a Baer (resp. δ-Baer) ring if the right annihilator ideal $r_R(U)$ of every nonempty subset U (resp. δ-subset U, $\delta(U) \subset U$) of R is generated by an idempotent, and R is called a quasi-Baer ring if the right annihilator ideal of every ideal is generated by an idempotent.

Then the authors give some equivalent conditions for a quasi-Baer ring $R[x; \delta]$. Theorem 1. The following statements are equivalent: (1) R is δ-quasi Baer; (2) A $(= R[x; \delta])$ is quasi Baer; (3) A is $\overline{\delta}$-quasi Baer for every extended derivation $\overline{\delta}$ of δ in A (that is, $\overline{\delta}(r) = r$ for all $r \in R$ and $\overline{\delta}$ is a derivation of A).

Moreover, a ring R is said to satisfy the insertion of factors property (IFP) if $r_R(x)$ is an ideal for all $x \in R$. Then some equivalent conditions are shown for a Baer $R[x;\delta]$. Theorem 2. Let R be a ring with IFP, and δ a derivation of R. Then the following statements are equivalent: (1) R is δ-Baer; (2) A $(= R[x;\delta])$ is Baer; (3) A is $\overline{\delta}$-Baer for every extended derivation $\overline{\delta}$ of δ in A.

Thus results are derived for Abelian, Armendariz and reduced rings, respectively.

Reviewer: George Szeto (Peoria)

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings

Cited in **11** Documents

Keywords:

δ-Baer rings; differential polynomial rings; δ-quasi-Baer rings; right annihilators; derivations; insertion of factors property

Full Text: DOI

References:

[1] DOI: 10.1017/S1446788700029190 · Zbl 0292.16009 · doi:10.1017/S1446788700029190

[2] DOI: 10.1080/00927878708823556 · Zbl 0629.16002 · doi:10.1080/00927878708823556

[3] DOI: 10.1017/S0004972700042052 · Zbl 0191.02902 · doi:10.1017/S0004972700042052

[4] Birkenmeier G. F., Pacific J. Math. 97 pp 283– (1981)

[5] DOI: 10.1080/00927878308822865 · Zbl 0505.16004 · doi:10.1080/00927878308822865

[6] DOI: 10.1007/BF00050894 · Zbl 0771.16003 · doi:10.1007/BF00050894

[7] DOI: 10.1081/AGB-100001530 · Zbl 0991.16005 · doi:10.1081/AGB-100001530

[8] DOI: 10.1016/S0022-4049(00)00055-4 · Zbl 0987.16018 · doi:10.1016/S0022-4049(00)00055-4

[9] DOI: 10.1215/S0012-7094-67-03446-1 · Zbl 0204.04502 · doi:10.1215/S0012-7094-67-03446-1

[10] Groenewald N. J., Publ. Inst. Math. 34 pp 71– (1983)

[11] DOI: 10.1080/00927870008827058 · Zbl 0965.16015 · doi:10.1080/00927870008827058

[12] DOI: 10.1007/s10474-005-0191-1 · Zbl 1081.16032 · doi:10.1007/s10474-005-0191-1

[13] DOI: 10.1081/AGB-120016752 · Zbl 1042.16014 · doi:10.1081/AGB-120016752

[14] DOI: 10.1112/jlms/s2-10.3.281 · Zbl 0313.16011 · doi:10.1112/jlms/s2-10.3.281

[15] Kaplansky I., Rings of Operators (1965) · Zbl 0174.18503

[16] DOI: 10.1006/jabr.1999.8017 · Zbl 0957.16018 · doi:10.1006/jabr.1999.8017

[17] Moussavi A., Scientiae Mathematicae Japonicae 64 pp 91– (2006)

[18] DOI: 10.1215/S0012-7094-70-03718-X · Zbl 0219.16010 · doi:10.1215/S0012-7094-70-03718-X

Nasr-Isfahani, A. R.; Moussavi, A.

On Ore extensions of quasi-Baer rings. (English) Zbl 1157.16008

J. Algebra Appl. 7, No. 2, 211-224 (2008).

A ring (associative with identity) R is called (right) principally quasi-Baer if the right annihilator of every (principal right) ideal of R is generated by an idempotent. The authors study if and when the quasi-Baer and principally quasi-Baer properties of a ring R is inherited by the Ore extension $R[x;\alpha,\delta]$ for any automorphism α and α-derivation of R.

Thus, if R is quasi-Baer, then so is $R[x;\alpha,\delta]$. Also, if R is right principally quasi-Baer such that either $\alpha(e) \in eR$ for each left semicentral idempotent $e \in R$ or $\alpha^m = \mathrm{id}_R$ for some positive integer m, then $R[x;\alpha,\delta]$ is right principally quasi-Baer.

Reviewer: Septimiu Crivei (Cluj-Napoca)

MSC:

16S36	Ordinary and skew polynomial rings and semigroup rings	Cited in **11** Documents
16P60	Chain conditions on annihilators and summands: Goldie-type conditions	

Keywords:

principally quasi-Baer rings; Ore extensions; right annihilators; semicentral idempotents

Full Text: DOI

References:

[1] DOI: 10.1017/S1446788700029190 · Zbl 0292.16009 · doi:10.1017/S1446788700029190

[2] DOI: 10.1080/00927878708823556 · Zbl 0629.16002 · doi:10.1080/00927878708823556

[3] DOI: 10.1081/AGB-100001530 · Zbl 0991.16005 · doi:10.1081/AGB-100001530

[4] Birkenmeier G. F., J. Pure Appl. Algebra 159 pp 24–

[5] Birkenmeier G. F., Kyungpook Math. J. 40 pp 247–

[6] DOI: 10.1080/00927878308822865 · Zbl 0505.16004 · doi:10.1080/00927878308822865

[7] DOI: 10.1215/S0012-7094-67-03446-1 · Zbl 0204.04502 · doi:10.1215/S0012-7094-67-03446-1

[8] DOI: 10.1017/CBO9780511841699· doi:10.1017/CBO9780511841699

[9] DOI: 10.1016/S0021-8693(05)80036-5 · Zbl 0779.16010 · doi:10.1016/S0021-8693(05)80036-5

[10] DOI: 10.1080/00927870008827058 · Zbl 0965.16015 · doi:10.1080/00927870008827058

[11] Hashemi E., Acta Math. Hungar. 107 pp 207– · Zbl 1081.16032 · doi:10.1007/s10474-005-0191-1

[12] DOI: 10.1016/S0022-4049(01)00053-6 · Zbl 1007.16020 · doi:10.1016/S0022-4049(01)00053-6

[13] DOI: 10.1016/S0022-4049(99)00020-1 · Zbl 0982.16021 · doi:10.1016/S0022-4049(99)00020-1

[14] Jøndrup S., Proc. Amer. Math. Soc. 28 pp 431–

[15] Kaplansky I., Rings of Operators (1965) · Zbl 0174.18503

[16] Krempa J., Algebra Colloq. 3 pp 289–

[17] DOI: 10.1215/S0012-7094-70-03718-X · Zbl 0219.16010 · doi:10.1215/S0012-7094-70-03718-X

Nasr-Isfahani, A. R.; Moussavi, A.

Ore extensions of skew Armendariz rings. (English) Zbl 1142.16016

Commun. Algebra 36, No. 2, 508-522 (2008).

Throughout R denotes an associative ring with identity, α is a ring endomorphism, δ an α-derivation of R, and $R[x;\alpha,\delta]$ the Ore extension whose elements are the polynomials over R, the addition is defined as usual and the multiplication subject to the relation $xa=\alpha(a)x+\delta(a)$ for any $a\in R$. The ring R is called α-rigid if there exists a rigid endomorphism α of R, in the sense that $a\alpha(a)=0$ implies $a=0$ for $a\in R$.

The authors introduce the following notion: the ring R is called skew-Armendariz if for polynomials $f(x)=a_0+a_1x+\dots+a_nx^n$ and $g(x)=b_0+b_1x+\dots+b_mx^m$ in $R[x;\alpha,\delta]$, $f(x)g(x)=0$ implies $a_0b_j=0$ for each $0\le j\le m$. These rings generalize α-skew Armendariz rings and α-rigid rings, and extend the classes of non reduced skew-Armendariz rings. The authors establish some properties of these rings and investigate connections of their properties with those of the Ore extension $R[x;\alpha,\delta]$. They extend and unify several known results on Armendariz rings.

Reviewer: Iuliu Crivei (Cluj-Napoca)

MSC:

16S36	Ordinary and skew polynomial rings and semigroup rings	Cited in **17** Documents
16W20	Automorphisms and endomorphisms	

Keywords:
Baer rings; quasi-Baer rings; skew-Armendariz rings; skew polynomial rings

Full Text: DOI
References:

[1] Anderson D. D., Comm. Algebra 26 (7) pp 2265– (1998) · Zbl 0915.13001 · doi:10.1080/00927879808826274
[2] Armendariz E. P., J. Austral. Math. Soc. 18 pp 470– (1974) · Zbl 0292.16009 · doi:10.1017/S1446788700029190
[3] Armendariz E. P., Comm. Algebra 15 pp 2633– (1987) · Zbl 0629.16002 · doi:10.1080/00927878708823556
[4] Bell H. E., Bull. Australian Math. Soc. 2 pp 363– (1970) · Zbl 0191.02902 · doi:10.1017/S0004972700042052
[5] Birkenmeier G. F., Kyungpook Math. J. 40 pp 247– (2000)
[6] Birkenmeier G. F., Comm. Algebra 29 (2) pp 639– (2001) · Zbl 0991.16005 · doi:10.1081/AGB-100001530
[7] Birkenmeier G. F., J. Pure Appl. Algebra 159 pp 24– (2001) · Zbl 0987.16018 · doi:10.1016/S0022-4049(00)00055-4
[8] Clark W. E., Duke Math. J. 34 pp 417– (1967) · Zbl 0204.04502 · doi:10.1215/S0012-7094-67-03446-1
[9] Goodearl K. R., An Introduction to Noncommutative Noetherian Rings (1989) · Zbl 0679.16001
[10] Han J., Comm. in Algebra 28 (8) pp 3795– (2000) · Zbl 0965.16015 · doi:10.1080/00927870008827058
[11] Hashemi E., Acta Math. Hungar. 107 (3) pp 207– (2005) · Zbl 1081.16032 · doi:10.1007/s10474-005-0191-1
[12] Hashemi E., Bull. Iranian Math. Soc. 29 (2) pp 65– (2003)
[13] Hirano Y., Comm. Algebra 29 (5) pp 2089– (2001) · Zbl 0996.16020 · doi:10.1081/AGB-100002171
[14] Hirano Y., J. Pure Appl. Algebra 168 pp 45– (2002) · Zbl 1007.16020 · doi:10.1016/S0022-4049(01)00053-6
[15] Hong C. Y., J. Pure Appl. Algebra 151 pp 215– (2000) · Zbl 0982.16021 · doi:10.1016/S0022-4049(99)00020-1
[16] Hong C. Y., Comm. Algebra 31 (1) pp 103– (2003) · Zbl 1042.16014 · doi:10.1081/AGB-120016752
[17] Huh C., Comm. Algebra 30 (2) pp 751– (2002) · Zbl 1023.16005 · doi:10.1081/AGB-120013179
[18] Kaplansky I., Rings of Operators (1965) · Zbl 0174.18503
[19] Kerr J. W., J. Algebra 134 pp 344– (1990) · Zbl 0719.16015 · doi:10.1016/0021-8693(90)90057-U
[20] Kim N. K., J. Algebra 223 pp 477– (2000) · Zbl 0957.16018 · doi:10.1006/jabr.1999.8017
[21] Krempa J., Algebra Colloq. 3 (4) pp 289– (1996)
[22] Lee T. K., Houston J. Math. 29 (3) pp 583– (2003)
[23] Matczuk J., Comm. Algebra 32 (11) pp 4333– (2004) · Zbl 1064.16027 · doi:10.1081/AGB-200034148
[24] Moussavi A., J. Korean Math. Soc. 42 (2) pp 353– (2005) · Zbl 1090.16012 · doi:10.4134/JKMS.2005.42.2.353
[25] Pollingher P., Duke Math. J. 37 pp 127– (1970) · Zbl 0219.16010 · doi:10.1215/S0012-7094-70-03718-X
[26] Rege M. B., Proc. Japan Acad. Ser. A Math. Sci. 73 pp 14– (1997) · Zbl 0960.16038 · doi:10.3792/pjaa.73.14
[27] Zhong-kui L., J. Math. Res. Exposition 25 (2) pp 197– (2005)

Kordi, A.; **Moussavi, A.**
On fuzzy ideals of BCI-algebras. (English) Zbl 1224.06040
PU.M.A., Pure Math. Appl. 18, No. 3-4, 301-310 (2007).

Summary: Fuzzy p-ideals, fuzzy H-ideals and fuzzy BCI-positive implicative ideals of BCI-algebras are studied, and related properties are investigated. We also give some characterizations of these ideals.

MSC:

06F35 BCK-algebras, BCI-algebras
03G25 Other algebras related to logic

Cited in **1** Document

Keywords:
BCI-algebras; fuzzy ideals

Nasr-Isfahani, A. R.; **Moussavi, A.**
On classical quotient rings of skew Armendariz rings. (English) Zbl 1140.16011
Int. J. Math. Math. Sci. 2007, Article ID 61549, 7 p. (2007).

Summary: Let R be a ring, α an automorphism, and δ an α-derivation of R. If the classical quotient ring Q of R exists, then R is weak α-skew Armendariz if and only if Q is weak $\widetilde{\alpha}$-skew Armendariz.

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings
16S90 Torsion theories; radicals on module categories (associative algebraic aspects)
16W25 Derivations, actions of Lie algebras

Cited in **2** Documents

Keywords:

ring endomorphisms; derivations; additive maps; skew polynomial rings; Armendariz rings; Ore extensions; classical right quotient rings

Full Text: DOI EuDML

References:

[1] M. B. Rege and S. Chhawchharia, “Armendariz rings,” Proceedings of the Japan Academy, Series A, vol. 73, no. 1, pp. 14-17, 1997. · Zbl 0960.16038 · doi:10.3792/pjaa.73.14

[2] E. P. Armendariz, “A note on extensions of Baer and p.p.-rings,” Journal of the Australian Mathematical Society, Series A, vol. 18, pp. 470-473, 1974. · Zbl 0292.16009 · doi:10.1017/S1446788700029190

[3] D. D. Anderson and V. Camillo, “Armendariz rings and Gaussian rings,” Communications in Algebra, vol. 26, no. 7, pp. 2265-2272, 1998. · Zbl 0915.13001 · doi:10.1080/00927879808826274

[4] E. Hashemi and A. Moussavi, “Polynomial extensions of quasi-Baer rings,” Acta Mathematica Hungarica, vol. 107, no. 3, pp. 207-224, 2005. · Zbl 1081.16032 · doi:10.1007/s10474-005-0191-1

[5] Y. Hirano, “On annihilator ideals of a polynomial ring over a noncommutative ring,” Journal of Pure and Applied Algebra, vol. 168, no. 1, pp. 45-52, 2002. · Zbl 1007.16020 · doi:10.1016/S0022-4049(01)00053-6

[6] C. Y. Hong, T. K. Kwak, and S. T. Rizvi, “Extensions of generalized Armendariz rings,” Algebra Colloquium, vol. 13, no. 2, pp. 253-266, 2006. · Zbl 1095.16014 · doi:10.1142/S100538670600023X

[7] C. Y. Hong, N. K. Kim, and T. K. Kwak, “On skew Armendariz rings,” Communications in Algebra, vol. 31, no. 1, pp. 103-122, 2003. · Zbl 1042.16014 · doi:10.1081/AGB-120016752

[8] C. Huh, Y. Lee, and A. Smoktunowicz, “Armendariz rings and semicommutative rings,” Communications in Algebra, vol. 30, no. 2, pp. 751-761, 2002. · Zbl 1023.16005 · doi:10.1081/AGB-120013179

[9] N. K. Kim and Y. Lee, “Armendariz rings and reduced rings,” Journal of Algebra, vol. 223, no. 2, pp. 477-488, 2000. · Zbl 0957.16018 · doi:10.1006/jabr.1999.8017

[10] T.-K. Lee and T.-L. Wong, “On Armendariz rings,” Houston Journal of Mathematics, vol. 29, no. 3, pp. 583-593, 2003. · Zbl 1071.16015

[11] A. Moussavi and E. Hashemi, “On (\alpha ,\delta)-skew Armendariz rings,” Journal of the Korean Mathematical Society, vol. 42, no. 2, pp. 353-363, 2005. · Zbl 1090.16012 · doi:10.4134/JKMS.2005.42.2.353

[12] C. Y. Hong, N. K. Kim, and T. K. Kwak, “Ore extensions of Baer and p.p.-rings,” Journal of Pure and Applied Algebra, vol. 151, no. 3, pp. 215-226, 2000. · Zbl 0982.16021 · doi:10.1016/S0022-4049(99)00020-1

[13] A. Moussavi and E. Hashemi, “Semiprime skew polynomial rings,” Scientiae Mathematicae Japonicae, vol. 64, no. 1, pp. 91-95, 2006. · Zbl 1102.16018

Moussavi, Ahmad; **Hashemi, Ebrahim**
On the semiprimitivity of skew polynomial rings. (English) Zbl 1142.16015
Mediterr. J. Math. 4, No. 3, 375-381 (2007).

Let R be a ring with identity, α an injective endomorphism of R, which is not assumed to be surjective, and δ an α-derivation of R. *S. A. Amitsur* [Can. J. Math. 8, 355-361 (1956; Zbl 0072.02404)] has shown that, if R has no nil ideal then the polynomial ring $R[x]$ is semiprimitive. This result was extended to skew polynomial rings of the form $R[x; \alpha, \delta]$ by many authors. *A. El Ahmar* [Arch. Math. 32, 13-15 (1979;

Zbl 0398.16005)] has shown that if R is semiprime Noetherian and α is a monomorphism, then $R[x;\alpha]$ is semiprimitive. *A. Moussavi* [Proc. Edinb. Math. Soc., II. Ser. 36, No. 2, 169-178 (1993; Zbl 0804.16029)] has extended this result to the skew polynomial ring $R[x;\alpha,\delta]$; *A. D. Bell* [Commun. Algebra 13, 1743-1762 (1985; Zbl 0567.16002)] has proved that if R is semiprime left Goldie with α an automorphism and δ an α-derivation, then $R[x;\alpha,\delta]$ is semiprimitive left Goldie. He has also commented that it is not known whether this generalizes to the case where α is not assumed to be surjective. In this paper the authors give an affirmative answer to Bell's question.

Reviewer: Y. Kurata (Hadano)

MSC:

Cited in **4** Documents

16S36 Ordinary and skew polynomial rings and semigroup rings
16D60 Simple and semisimple modules, primitive rings and ideals in associative algebras
16W25 Derivations, actions of Lie algebras
16N60 Prime and semiprime associative rings
16P60 Chain conditions on annihilators and summands: Goldie-type conditions
16W60 Valuations, completions, formal power series and related constructions (associative rings and algebras)

Keywords:

skew polynomial rings; skew Laurent polynomial rings; semiprimitivity; prime ideals; injective endomorphisms; semiprime left Goldie rings

Full Text: DOI

Moussavi, A.; **Hashemi, E.**
Semiprime skew polynomial rings. (English) Zbl 1102.16018
Sci. Math. Jpn. 64, No. 1, 91-95 (2006).

Summary: A ring R with a monomorphism α and an α-derivation δ with $\alpha\delta=\delta\alpha$ is called '(α,δ)-quasi Baer' (resp. 'quasi Baer') if the right annihilator of every (α,δ)-ideal (resp. ideal) of R is generated by an idempotent of R. In this paper we show that a semiprime ring $R[x;\alpha,\delta]$ is α-quasi Baer if and only if $S=R[x;\alpha,\delta]$ is $(\alpha,\overline{\delta})$-quasi Baer for every extended α-derivation $\overline{\delta}$ on S of δ if and only if R is (α,δ)-quasi Baer.

MSC:

Cited in **1** Document

16S36 Ordinary and skew polynomial rings and semigroup rings
16N60 Prime and semiprime associative rings
16W25 Derivations, actions of Lie algebras
16P60 Chain conditions on annihilators and summands: Goldie-type conditions

Keywords:

quasi Baer rings; right annihilators; idempotents; semiprime rings; derivations

Hashemi, E.; **Moussavi, A.**
Polynomial extensions of quasi-Baer rings. (English) Zbl 1081.16032
Acta Math. Hung. 107, No. 3, 207-224 (2005).

E. P. Armendariz [J. Aust. Math. Soc. 18, 470-473 (1974; Zbl 0292.16009)] proved that a polynomial extension $R[x]$ of a reduced ring R is a Baer ring if and only if R is Baer. Some generalizations of this result to more general classes of rings (quasi-Baer, p.p.-rings and p.q.-Baer) and different classes of ring extensions were provided by different authors.

This paper goes in this direction. Let R be an (α,δ)-compatible ring where $\alpha,\delta\colon R\to R$ are an endomorphism and an α-derivation, respectively (compatibility means $ab=0\Leftrightarrow a\alpha(b)=0$ and $ab=0\Rightarrow a\delta(b)=$

0, respectively, for all $a, b \in R$). Under these assumptions the authors prove: R is quasi-Baer if and only if $R[x;\alpha,\delta]$ is quasi-Baer if and only if $R[\![x;\alpha]\!]$ is quasi-Baer; R is left p.q.-Baer if and only if $R[x;\alpha,\delta]$ is left p.q.-Baer if and only if $R[x,x^{-1};\alpha]$ is left p.q.-Baer, and if α is an automorphism R is quasi-Baer if and only if $R[\![x,x^{-1};\alpha]\!]$ is quasi-Baer. Proofs are based on the connection between skew versions of Armendariz rings and the lifting of purity of left annihilators of principal left ideals. Several examples show that the conditions studied are not superfluous.

Reviewer: F. J. Lobillo (Granada)

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings
16W60 Valuations, completions, formal power series and related constructions (associative rings and algebras)
16P60 Chain conditions on annihilators and summands: Goldie-type conditions

Keywords:

Baer rings; quasi-Baer rings; Armendariz rings; compatible rings; skew polynomial rings; formal skew power series rings; skew Laurent polynomial rings; skew Laurent series rings

Full Text: DOI

Moussavi, A.; **Seyyed Javadi, H. Haj**; **Hashemi, E.**
Generalized quasi-Baer rings. (English) Zbl 1088.16018
Commun. Algebra 33, No. 7, 2115-2129 (2005).

In this paper, a ring R with identity is called generalized right (principally) quasi-Baer if for any (principal) right ideal I of R, the right annihilator of I^n is generated by an idempotent for some positive integer n (depending on I). It is shown that the generalized right (principally) quasi-Baer condition is a Morita invariant property. Also the generalized right (principally) quasi-Baer condition for various ring extensions is studied.

Reviewer: J. K. Park (Pusan)

MSC:

16P60 Chain conditions on annihilators and summands: Goldie-type conditions
16S60 Associative rings of functions, subdirect products, sheaves of rings
16D70 Structure and classification for modules, bimodules and ideals (except as in 16Gxx), direct sum decomposition and cancellation in associative algebras)
16S50 Endomorphism rings; matrix rings

Keywords:

right quasi-Baer rings; semicentral idempotents; generalized triangular matrix rings; annihilators; principally quasi-Baer rings; ring extensions; direct products; Morita invariants

Full Text: DOI

References:

[1] DOI: 10.1017/S1446788700029190 · Zbl 0292.16009 · doi:10.1017/S1446788700029190

[2] DOI: 10.1017/S0004972700042052 · Zbl 0191.02902 · doi:10.1017/S0004972700042052

[3] Berberian S. K., Grundlehren Math. Wiss. Band 195 296 (1972)

[4] DOI: 10.1080/00927878308822865 · Zbl 0505.16004 · doi:10.1080/00927878308822865

[5] DOI: 10.1007/BF00050894 · Zbl 0771.16003 · doi:10.1007/BF00050894

[6] DOI: 10.1016/S0022-4049(99)00164-4 · Zbl 0947.16018 · doi:10.1016/S0022-4049(99)00164-4

[7] DOI: 10.1017/S0004972700022000 · Zbl 0952.16009 · doi:10.1017/S0004972700022000
[8] Birkenmeier G. F., Contemporary Mathematics 259 pp 67– (2000)
[9] DOI: 10.1081/AGB-100001530 · Zbl 0991.16005 · doi:10.1081/AGB-100001530
[10] DOI: 10.1216/rmjm/1181070024 · Zbl 1035.16024 · doi:10.1216/rmjm/1181070024
[11] Chase S. U., Nagoya Math. J. 18 pp 13– (1961) · Zbl 0113.02901 · doi:10.1017/S0027763000002208
[12] Chatters A. W., Rings with Chain Conditions (1980) · Zbl 0446.16001
[13] DOI: 10.1017/S0017089500009253 · Zbl 0709.16007 · doi:10.1017/S0017089500009253
[14] DOI: 10.1215/S0012-7094-67-03446-1 · Zbl 0204.04502 · doi:10.1215/S0012-7094-67-03446-1
[15] Dauns J., Mem. Amer. Math. Math. Sci. 15 pp 351– (1968)
[16] Endo S., Nagoya Math. J. 17 pp 167– (1960) · Zbl 0117.02203 · doi:10.1017/S0027763000002129
[17] Goodearl K. R., Von Neumann Regular Rings (1991)
[18] Goodearl K. R., An Introduction to Noncommutative Noetherian Rings (1989) · Zbl 0679.16001
[19] Hashemi E., Bull. Korean Math. 4 pp 657– (2004) · Zbl 1065.16025 · doi:10.4134/BKMS.2004.41.4.657
[20] DOI: 10.1081/AGB-100002171 · Zbl 0996.16020 · doi:10.1081/AGB-100002171
[21] DOI: 10.1016/S0022-4049(01)00053-6 · Zbl 1007.16020 · doi:10.1016/S0022-4049(01)00053-6
[22] DOI: 10.1090/S0002-9904-1972-12899-4 · Zbl 0237.16018 · doi:10.1090/S0002-9904-1972-12899-4
[23] DOI: 10.1016/S0022-4049(99)00020-1 · Zbl 0982.16021 · doi:10.1016/S0022-4049(99)00020-1
[24] DOI: 10.1016/S0022-4049(01)00149-9 · Zbl 0994.16003 · doi:10.1016/S0022-4049(01)00149-9
[25] DOI: 10.1081/AGB-120013179 · Zbl 1023.16005 · doi:10.1081/AGB-120013179
[26] Kaplansky I., Rings of Operators (1965) · Zbl 0174.18503
[27] DOI: 10.1006/jabr.1999.8017 · Zbl 0957.16018 · doi:10.1006/jabr.1999.8017
[28] DOI: 10.1007/978-1-4419-8616-0· doi:10.1007/978-1-4419-8616-0
[29] DOI: 10.4153/CMB-1971-065-1 · Zbl 0217.34005 · doi:10.4153/CMB-1971-065-1
[30] DOI: 10.1007/BF01111594 · Zbl 0215.38102 · doi:10.1007/BF01111594
[31] Moussavi A., Bull. Iranian. Soc. (2003)
[32] Pierce R. S., Mem. Amer. Math. Soc. (1967)
[33] DOI: 10.1215/S0012-7094-70-03718-X · Zbl 0219.16010 · doi:10.1215/S0012-7094-70-03718-X
[34] DOI: 10.3792/pjaa.73.14 · Zbl 0960.16038 · doi:10.3792/pjaa.73.14
[35] DOI: 10.2307/1969091 · Zbl 0060.27103 · doi:10.2307/1969091
[36] DOI: 10.1090/S0002-9947-1973-0338058-9· doi:10.1090/S0002-9947-1973-0338058-9
[37] DOI: 10.1090/S0002-9904-1967-11812-3 · Zbl 0149.28102 · doi:10.1090/S0002-9904-1967-11812-3
[38] Stenström B., Rings of Quotients (1975)· doi:10.1007/978-3-642-66066-5

Moussavi, A.; **Hashemi, E.**
On (α, δ)-skew Armendariz rings. (English) Zbl 1090.16012
J. Korean Math. Soc. 42, No. 2, 353-363 (2005).

Let α be an endomorphism and δ be an α-derivation of a ring R. In this paper, a ring R is called an (α,δ)-skew Armendariz ring, if for given polynomials $f(x)=a_0+a_1x+\cdots+a_nx^n$ and $g(x)=b_0+b_1x+\cdots+b_mx^m$ in the Ore extension $R[x;\alpha,\delta]$, $f(x)g(x)=0$ implies $a_ix^ib_jx^j=0$. Some properties of (α,δ)-Armendariz rings are studied.

Reviewer: J. K. Park (Pusan)

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings

Keywords:

Baer rings; PP-rings; skew Armendariz rings; Ore extensions

Full Text: DOI

Hashemi, Ebrahim; Moussavi, Ahmad

Skew power series extensions of α-rigid p.p.-rings. (English) Zbl 1065.16025

Bull. Korean Math. Soc. 41, No. 4, 657-664 (2004).

Summary: We investigate skew power series of α-rigid p.p. rings, where α is an endomorphism of a ring R which is not assumed to be surjective. For an α-rigid ring R, $R[[x;\alpha]]$ is right p.p., if and only if $R[[x,x^{-1};\alpha]]$ is right p.p., if and only if R is right p.p., and any countable family of idempotents in R has a join in $I(R)$.

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings

16W60 Valuations, completions, formal power series and related constructions (associative rings and algebras)

16E50 von Neumann regular rings and generalizations (associative algebraic aspects)

Keywords:

quasi-Baer rings; skew Laurent polynomial rings; right pp-rings; Ore extensions; idempotents

Full Text: DOI

Hashemi, E.; Moussavi, A.; Seyyed Javadi, H. Haj

Polynomial Ore extensions of Baer and p.p.-rings. (English) Zbl 1065.16024

Bull. Iran. Math. Soc. 29, No. 2, 65-86 (2003).

Summary: For a ring endomorphism α and an α-derivation δ, we introduce (α,δ)-compatible rings which generalize α-rigid rings. We study the relationship between the Baer and p.p. properties of a ring and its Ore extensions. These include formal skew power series, skew Laurent polynomials and skew Laurent series. As a consequence we obtain a generalization of results of *E. P. Armendariz* [J. Aust. Math. Soc. 18, 470-473 (1974; Zbl 0292.16009)] and *C. Y. Hong, N. K. Kim* and *T. K. Kwak* [J. Pure Appl. Algebra 151, No. 3, 215-226 (2000; Zbl 0982.16021)].

MSC:

16S36 Ordinary and skew polynomial rings and semigroup rings

16W60 Valuations, completions, formal power series and related constructions (associative rings and algebras)

16E50 von Neumann regular rings and generalizations (associative algebraic aspects)

Keywords:

quasi-Baer rings; skew Laurent polynomial rings; right pp-rings; Ore extensions

Moussavi, A.

On the semiprimitivity of skew polynomial rings. (English) Zbl 0804.16029

Proc. Edinb. Math. Soc., II. Ser. 36, No. 2, 169-178 (1993).

Let R be a ring, let $f:R\to R$ be a ring-monomorphism which is not assumed to be surjective, and let d be an f-derivation of R. Let S and T denote respectively the twisted polynomial ring $R[X;f]$ and the Ore extension $R[X;f,d]$. The main theme of the paper is to prove results about the semi-primitivity of S and T which have previously only been proved with the additional assumption that f is an automorphism of

R. It is shown that if R is left Noetherian with the a.c.c. for right annihilators, or is right Noetherian with the a.c.c. for left annihilators, then the Jacobson and nilpotent radicals of S coincide (this uses Dean's result that f maps the nilpotent radical of R into itself). Also if R is semi-prime left Noetherian then T is a semi-primitive left Goldie ring.

Reviewer: A.W.Chatters (Bristol)

MSC:

16S36	Ordinary and skew polynomial rings and semigroup rings	Cited in **1** Review
16D60	Simple and semisimple modules, primitive rings and ideals in associative algebras	Cited in **5** Documents
16W25	Derivations, actions of Lie algebras	
16N60	Prime and semiprime associative rings	
16P60	Chain conditions on annihilators and summands: Goldie-type conditions	

Keywords:

ring-monomorphism; f-derivation; twisted polynomial ring; Ore extension; semi-primitivity; a.c.c. for right annihilators; Jacobson and nilpotent radicals; semi-prime left Noetherian; semi-primitive left Goldie ring

Full Text: DOI

References:

[1] DOI: 10.1112/jlms/s2-9.2.337 · Zbl 0294.16019 · doi:10.1112/jlms/s2-9.2.337

[2] DOI: 10.1016/0021-8693(72)90033-6 · Zbl 0233.16003 · doi:10.1016/0021-8693(72)90033-6

[3] DOI: 10.1016/0021-8693(86)90046-3 · Zbl 0594.16008 · doi:10.1016/0021-8693(86)90046-3

[4] DOI: 10.1016/0021-8693(79)90341-7 · Zbl 0399.16015 · doi:10.1016/0021-8693(79)90341-7

[5] Herstein, Topics in Ring theory (1969)

[6] Chatters, Rings with chain conditions 44 (1980)

[7] DOI: 10.1016/0021-8693(78)90213-2 · Zbl 0384.16008 · doi:10.1016/0021-8693(78)90213-2

[8] DOI: 10.1112/jlms/s2-29.3.418 · Zbl 0522.16004 · doi:10.1112/jlms/s2-29.3.418

[9] DOI: 10.1080/00927878508823250 · Zbl 0567.16002 · doi:10.1080/00927878508823250

[10] DOI: 10.1007/BF02760658 · Zbl 0436.16002 · doi:10.1007/BF02760658

[11] Amitsur, Canad. J. Math. 8 pp 355– (1956) · Zbl 0072.02404 · doi:10.4153/CJM-1956-040-9

[12] DOI: 10.2307/2044470 · Zbl 0535.16002 · doi:10.2307/2044470

[13] DOI: 10.1080/00927877708822194 · Zbl 0355.16020 · doi:10.1080/00927877708822194

[14] McConnell, Non-commutative Noetherian rings (1987)

[15] Lanski, Canad. J. Math. 21 pp 904– (1969) · Zbl 0182.36701 · doi:10.4153/CJM-1969-098-x

[16] DOI: 10.1112/jlms/s2-25.3.435 · Zbl 0486.16002 · doi:10.1112/jlms/s2-25.3.435

[17] DOI: 10.1080/00927877608822125 · Zbl 0328.16001 · doi:10.1080/00927877608822125

[18] El Ahmar, Rev. Roumaine Math. Pures Appl. 26 pp 1277– (1981)