

ON TWO CLASSES OF PSEUDO-BCI-ALGEBRAS

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Abstract

The class of p-semisimple pseudo-BCI-algebras and the class of branchwise commutative pseudo-BCI-algebras are studied. It is proved that they form varieties. Some congruence properties of these varieties are displayed.

Keywords: pseudo-BCI-algebra, p-semisimplicity, branchwise commutativity.

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REFERENCES

- [1] W.A. Dudek and Y.B. Jun, *Pseudo-BCI algebras*, East Asian Math. J. **24** (2008), 187–190.
- [2] G. Dymek, *Atoms and ideals of pseudo-BCI-algebras*, submitted.
- [3] G. Dymek, *On compatible deductive systems of pseudo-BCI-algebras*, submitted.
- [4] G. Dymek, *p-semisimple pseudo-BCI-algebras*, J. Mult.-Val. Log. Soft Comput., to appear.
- [5] G. Dymek and A. Kozanecka-Dymek, *Pseudo-BCI-logic*, submitted.
- [6] G. Georgescu and A. Iorgulescu, Pseudo-BCK algebras: an extension of BCK-algebras, Proceedings of DMTCS'01: Combinatorics, Computability and Logic, Springer, London, 2001, 97–114.
- [7] G. Georgescu and A. Iorgulescu, Pseudo-BL algebras: a noncommutative extension of BL-algebras, Abstracts of The Fifth International Conference FSTA 2000, Slovakia, February 2000, 90–92.
- [8] G. Georgescu and A. Iorgulescu, Pseudo-MV algebras: a noncommutative extension of MV-algebras, The Proceedings The Fourth International Symposium on Economic Informatics, INFOREC Printing House, Bucharest, Romania, May (1999), 961–968.

- [9] A. Iorgulescu, Algebras of logic as BCK algebras, Editura ASE, Bucharest, 2008.
- [10] K. Iséki, *An algebra related with a propositional calculus*, Proc. Japan. Academy **42** (1966), 26–29. doi:10.3792/pja/1195522171
- [11] Y.B. Jun, H.S. Kim and J. Neggers, *On pseudo-BCI ideals of pseudo BCI-algebras*, Mat. Vesnik **58** (2006), 39–46.
- [12] K.J. Lee and C.H. Park, *Some ideals of pseudo-BCI algebras*, J. Appl. Math. & Informatics **27** (2009), 217–231.
- [13] A. Wroński, *BCK-algebras do not form a variety*, Math. Japon. **28** (1983), 211–213.

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