

## NORMALIZATION OF BASIC ALGEBRAS

MIROSLAV KOLAŘÍK

*Department of Computer Science*  
*Palacký University Olomouc*  
*Tomkova 40, 779 00 Olomouc, Czech Republic*

**e-mail:** kolarik@inf.upol.cz

### Abstract

We consider algebras determined by all normal identities of basic algebras. For such algebras, we present a representation based on a  $q$ -lattice, i.e., the normalization of a lattice.

**Keywords:** basic algebra, section antitone involution,  $q$ -lattice, normalization of a variety.

**2000 Mathematics Subject Classification:** 06D35, 06B05, 03G25.

### REFERENCES

- [1] I. Chajda, *Lattices in quasiordered sets*, Acta Univ. Palacki. Olomuc., Fac. Rerum. Nat., Math. **31** (1992), 6–12.
- [2] I. Chajda, *Congruence properties of algebras in nilpotent shifts of varieties*, pp. 35–46 in: General Algebra and Discrete Mathematics (K. Denecke, O. Lüders, eds.), Heldermann, Berlin 1995.
- [3] I. Chajda, *Normally presentable varieties*, Algebra Universalis **34** (1995), 327–335.
- [4] I. Chajda and E. Graczyńska, *Algebras presented by normal identities*, Acta Univ. Palacki. Olomuc., Fac. Rerum. Nat., Math. **38** (1999), 49–58.
- [5] I. Chajda, R. Halaš and J. Kühn, *Many-valued quantum algebras*, Algebra Universalis, DOI 10.1007/s00012-008-2086-9.

- [6] I. Chajda, R. Halaš and J. Kühr, *Semilattice Structures*, Heldermann Verlag (Lemgo, Germany), 2007, ISBN 978-3-88538-230-0.
- [7] I. Chajda, R. Halaš, J. Kühr and A. Vanžurová, *Normalization of MV-algebras*, *Mathematica Bohemica* **130** (2005), 283–300.
- [8] I. Chajda and M. Kolařík, *Independence of axiom system of basic algebras*, *Soft Computing*, DOI 10.1007/s00500-008-0291-2.
- [9] I. Mel'nik, *Nilpotent shifts of varieties*, *Math. Notes* **14** (1973), 692–696 (in Russian).

Received 10 April 2008

Revised 29 April 2008