Markku Niemenmaa
On finite commutative IP-loops with elementary abelian inner mapping groups of order p^5

Abstract: We show that finite commutative inverse property loops with elementary abelian inner mapping groups of order p^5 are centrally nilpotent of class at most two.

References

[1] Bruck R. H., *Contributions to the theory of loops*, Trans. Amer. Math. Soc. **60** (1946), 245–354.

[2] Csörgő P., *On connected transversals to abelian subgroups and loop theoretical consequences*, Arch. Math. (Basel) **86** (2006), no. 6, 499–516.

[3] Csörgő P., *Abelian inner mappings and nilpotency class greater than two*, European J. Combin. **28** (2007), no. 3, 858–867.

[4] Drápal A., Vojtěchovský P., *Explicit constructions of loops with commuting inner mappings*, European J. Combin. **29** (2008), no. 7, 1662–1681.

[5] Leppälä E., Niemenmaa M., *On finite commutative loops which are centrally nilpotent*, Comment. Math. Univ. Carolin. **56** (2015), no. 2, 139–143.

[6] Niemenmaa M., *Finite loops with nilpotent inner mapping groups are centrally nilpotent*, Bull. Aust. Math. Soc. **79** (2009), no. 1, 109–114.

[7] Niemenmaa M., *On finite commutative IP-loops with elementary abelian inner mapping groups of order p^4*, Comment. Math. Univ. Carolin. **51** (2010), no. 4, 559–563.

[8] Niemenmaa M., *On dihedral 2-groups as inner mapping groups of finite commutative inverse property loops*, Comment. Math. Univ. Carolin. **59** (2018), no. 2, 189–193.

[9] Niemenmaa M., Kepka T., *On multiplication groups of loops*, J. Algebra **135** (1990), no. 1, 112–122.

[10] Niemenmaa M., Kepka T., *On connected transversals to abelian subgroups*, Bull. Austral. Math. Soc. **49** (1994), no. 1, 121–128.

[11] Niemenmaa M., Rytty M., *Connected transversals and multiplication groups of loops*, Quasigroups Related Systems **15** (2007), no. 1, 95–107.