

Vasiliy A. Chupordia, Leonid A. Kurdachenko, Igor Ya. Subbotin

On Leibniz algebras with maximal cyclic subalgebras

Comment.Math.Univ.Carolin. 63,3 (2022) 277–294.

Abstract: We begin to study the structure of Leibniz algebras having maximal cyclic subalgebras.

Keywords: Leibniz algebra; Lie algebra; ideal; cyclic Leibniz algebra; derivation

AMS Subject Classification: 17A32, 17A60, 17A99

REFERENCES

- [1] Ayupov Sh., Omirov B., Rakhimov I., *Leibniz Algebras: Structure and Classification*, CRC Press, Boca Raton, 2020.
- [2] Batten Ray Ch., Combs A., Gin N., Hedges A., Hird J. T., Zack L., *Nilpotent Lie and Leibniz algebras*, Comm. Algebra **42** (2014), no. 6, 2404–2410.
- [3] Berkovich Ya., *Groups of Prime Power Order. Vol. 1*, De Gruyter Expositions in Mathematics, 46, Walter de Gruyter GmbH & Co. KG, Berlin, 2008.
- [4] Bloh A. M., *On a generalization of the concept of Lie algebra*, Dokl. Akad. Nauk SSSR **165** (1965), 471–473 (Russian).
- [5] Chupordia V. A., Kurdachenko L. A., Semko N. N., *On the structure of Leibniz algebras, whose subalgebras are ideals or core-free*, Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki (2020), no. 7, 17–21.
- [6] Chupordia V. A., Kurdachenko L. A., Subbotin I. Ya., *On some “minimal” Leibniz algebras*, J. Algebra Appl. **16** (2017), no. 5, 1750082, 16 pages.
- [7] Kirichenko V. V., Kurdachenko L. A., Pypka A. A., Subbotin I. Ya., *Some aspects of Leibniz algebra theory*, Algebra Discrete Math. **24** (2017), no. 1, 1–33.
- [8] Kurdachenko L. A., Otal J., Pypka A. A., *Relationships between factors of canonical central series of Leibniz algebras*, Eur. J. Math. **2** (2016), no. 2, 565–577.
- [9] Kurdachenko L. A., Otal J., Subbotin I. Ya., *On some properties of the upper central series in Leibniz algebras*, Comment. Math. Univ. Carolin. **60** (2019), no. 2, 161–175.
- [10] Kurdachenko L. A., Semko N. N., Subbotin I. Ya., *The Leibniz algebras whose subalgebras are ideals*, Open Math. **15** (2017), no. 1, 92–100.
- [11] Kurdachenko L. A., Semko N. N., Subbotin I. Ya., *On the anticommutativity in Leibniz algebras*, Algebra Discrete Math. **26** (2018), no. 1, 97–109.
- [12] Kurdachenko L. A., Semko N. N., Subbotin I. Ya., *Applying group theory philosophy to Leibniz algebras: some new developments*, Adv. Group Theory Appl. **9** (2020), 71–121.
- [13] Kurdachenko L. A., Subbotin I. Ya., Semko N. N., *From groups to Leibniz algebras: common approaches, parallel results*, Adv. Group Theory Appl. **5** (2018), 1–31.
- [14] Kurdachenko L. A., Subbotin I. Ya., Yashchuk V. S., *Leibniz algebras whose subideals are ideals*, J. Algebra Appl. **17** (2018), no. 8, 1850151, 15 pages.
- [15] Kurdachenko L. A., Subbotin I. Ya., Yashchuk V. S., *Leibniz algebras whose subalgebras are left ideals*, Serdica Math. J. **46** (2020), no. 2, 175–194.
- [16] Kurdachenko L. A., Subbotin I. Ya., Yashchuk V. S., *Some antipodes of ideals in Leibniz algebras*, J. Algebra Appl. **19** (2020), no. 6, 2050113, 14 pages.
- [17] Loday J.-L., *Cyclic Homology*, Grundlehren der mathematischen Wissenschaften, 301, Springer, Berlin, 1992.
- [18] Loday J.-L., *Une version non commutative des algèbres de Lie: les algèbres de Leibniz*, Enseign. Math. (2) **39** (1993), no. 3–4, 269–293 (French).
- [19] Loday J.-L., Pirashvili T., *Universal enveloping algebras of Leibniz algebras and (co)homology*, Math. Ann. **296** (1993), no. 1, 139–158.
- [20] Yashchuk V. S., *On some Leibniz algebras, having small dimension*, Algebra Discrete Math. **27** (2019), no. 2, 292–308.