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*Moufang loops of order 243*

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**Abstract:** We present a computer-assisted determination of the 72 non-isomorphic, non-associative Moufang loops of order 243. Some of their properties and distinguishing features are discussed.

**Keywords:** Moufang, finite loops, classification of Moufang loops, GAP

**AMS Subject Classification:** 20N05

REFERENCES

- [1] Chee W.L., *Classification of Moufang loops of odd order*, PhD thesis, Universiti Sains Malaysia, 2010.
- [2] Chein O., *Moufang loops of small order 1*, Trans. Amer. Math. Soc. **188** (1974), 31–51.
- [3] Chein O., Pflugfelder H.O., *The smallest Moufang loop*, Arch. Math. (Basel) **22** (1971), 573–576.
- [4] Chein O., Pflugfelder H.O., *Moufang loops of small order*, Mem. Amer. Math. Soc. **13** (1978), 1–131.
- [5] The GAP Group, *GAP – Groups, Algorithms, and Programming, Version 4.4.12*, (2008), (<http://www.gap-system.org>).
- [6] Nagy G., Valsecchi M., *On nilpotent Moufang loops with central associators*, J. Algebra **307** (2007), 547–564.
- [7] Nagy G., Vojtěchovský P., *LOOPS: Computing with quasigroups and loops in GAP, Version 2.0.0*, (2008), (<http://www.math.du.edu/loops>).
- [8] Nagy G., Vojtěchovský P., *The Moufang loops of order 64 and 81*, J. Symbolic Comput. **42** (2007), 871–883.