

**FINITE GROUPS WITH HEREDITARILY G -PERMUTABLE
MINIMAL SUBGROUPS****S. F. Kamornikov, V. N. Tyutyaynov**

In this paper, the structure of a finite group G all of whose minimal subgroups are hereditarily G -permutable is studied.

Keywords: finite group, minimal subgroup, G -permutable subgroup, hereditarily G -permutable subgroup, supersoluble group, soluble group.

REFERENCES

1. Guo W., Shum K.P., Skiba A.N. X -quasinormal subgroups. *Sib. Math. J.*, 2007, vol. 48, no. 4, pp. 593–605. doi: 10.1007/S11202-007-0061-x
2. Doerk K., Hawkes T. *Finite soluble groups*. Berlin, NY, Walter de Gruyter, 1992, 891 p. doi: 10.1515/9783110870138
3. Ore O. Contributions in the theory of groups of finite order. *Duke Math. J.*, 1939, vol. 5, no. 2, pp. 431–460. doi: 10.1215/S0012-7094-39-00537-5
4. Itô N., Szép J. Über die Quasinormalteiler von endlichen Gruppen. *Acta Sci. Math.*, 1962, vol. 23, no. 1–2, pp. 168–170.
5. Huppert B. *Endliche Gruppen I*. Berlin: Springer-Verlag, 1967, 796 p. doi: 10.1007/978-3-642-64981-3
6. Buckley J. Finite groups whose minimal subgroups are normal. *Math. Z.*, 1970, vol. 116, no. 1, pp. 15–17. doi: 10.1007/BF01110184
7. Al-Shomrani M.M., Ramadan M., Heliel A.A. Finite groups whose minimal subgroups are weakly H -subgroups. *Acta Math. Sci.*, 2012, vol. 32, no. 6, pp. 2295–2301. doi: 10.1016/S0252-96(02)60179-9
8. Thompson J.G. Nonsolvable finite groups all of whose local subgroups are solvable. *Bull. Amer. Math. Soc.*, 1968, vol. 74, no. 3, pp. 383–437. doi: 10.1090/S0002-9904-1968-11953-6
9. Galt A.A., Tyutyaynov V.N. On the existence of G -permutable subgroups in simple sporadic groups. *Sib. Math. J.*, 2022, vol. 63, no. 4, pp. 691–698. doi: 10.1134/S0037446622040097
10. Itô N. On the factorizations of the linear fractional groups $LF(2, p^n)$. *Acta Sci. Math.*, 1954, vol. 15, pp. 79–84.
11. Conway J.H., Curtis R.T., Norton S.P., Parker R.A., Wilson R.A. *Atlas of finite groups*. Oxford: Oxford Univ. Press, 1985, 252 p. doi: 10.1017/S001309150002839X
12. Suzuki M. On a class double transitive groups. *Ann. Math.*, 1962, vol. 75, no 1, pp. 105–145. doi: 10.2307/1970423
13. Doerk K. Minimal nicht überauflösbare, endliche Gruppen. *Math. Z.*, 1966, vol. 91, no. 3, pp. 198–205. doi: 10.1007/BF01312426
14. Shemetkov L.A. *Formatsii konechnykh grupp* [Formations of finite groups]. Moscow, Nauka Publ., 1978, 271 p.
15. Kantor W.M., Seress Á. Prime power graphs for groups of Lie type. *J. Algebra*, 2002, vol. 247, no. 2, pp. 370–434. doi: 10.1006/j.algebra.2001.9016

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Sergei Fedorovich Kamornikov, Dr. Phys.-Math. Sci., Prof., F. Skorina Gomel State University, Gomel, 246028 Republic of Belarus, e-mail: sfkamornikov@mail.ru.

Valentin Nikolayevich Tyutyaynov, Dr. Phys.-Math. Sci., Prof., Gomel Branch of International University “MITSO”, Gomel, 246029 Republic of Belarus, e-mail: vtutanov@gmail.com.

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