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On nearly SS -embedded subgroups of finite groups. (English) Zbl 1308.20021
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Summary: Let H be a subgroup of a finite group G . H is nearly SS -embedded in G if there exists an S -quasinormal subgroup K of G , such that HK is S -quasinormal in G and $H \cap K \leq H_{se G}$, where $H_{se G}$ is the subgroup of H , generated by all those subgroups of H which are S -quasinormally embedded in G . In this paper, the authors investigate the influence of nearly SS -embedded subgroups on the structure of finite groups.

MSC:

- 20D40 Products of subgroups of abstract finite groups
- 20D20 Sylow subgroups, Sylow properties, π -groups, π -structure
- 20D15 Finite nilpotent groups, p -groups
- 20D10 Finite solvable groups, theory of formations, Schunck classes, Fitting classes, π -length, ranks

Cited in 2 Documents

Keywords:

finite groups; S -quasinormal subgroups; nearly SS -embedded subgroups; Sylow subgroups; p -nilpotent groups; supersolvable groups

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References:

- [1] Assad, M; Heliel, A A, On SS -quasinormally embedded subgroups of finite groups, J. Pure Appl. Algebra, 165, 129-135, (2001) · [Zbl 1011.20019](#) · [doi:10.1016/S0022-4049\(00\)00183-3](#)
- [2] Ballester-Bolinches, A; Pedraza-Aguilera, M C, Sufficient conditions for supersolubility of finite groups, J. Pure Appl. Algebra, 127, 113-118, (1998) · [Zbl 0928.20020](#) · [doi:10.1016/S0022-4049\(96\)00172-7](#)
- [3] Deskins, W E, On quasinormal subgroups of finite groups, Math. Z., 82, 125-132, (1963) · [Zbl 0114.02004](#) · [doi:10.1007/BF01111801](#)
- [4] Doerk, K. and Hawkes, T., Finite Solvable Groups, Walter de Gruyter, New York, 1992. · [Zbl 0753.20001](#) · [doi:10.1515/9783110870138](#)
- [5] Gorenstein, D., Finite Groups, Harper and Row Publishers, New York, Evanston, London, 1968. · [Zbl 0185.05701](#)
- [6] Guo, W., The Theory of Class of Groups, Science Press-Kluwer Academic Publishers, Beijing, New York, Dordrecht, Boston, London, 2000.
- [7] Guo, W; Lu, Y; Niu, W, SS -embedded subgroups of finite groups, Algebra and Logic, 49, 293-304, (2010) · [Zbl 1255.20021](#) · [doi:10.1007/s10469-010-9097-2](#)
- [8] Guo, W; Shum, K P; Skiba, A N, On solubility and supersolubility of some classes of finite groups, Sci. China Ser. A, 52, 272-286, (2009) · [Zbl 1189.20023](#) · [doi:10.1007/s11425-009-0008-8](#)
- [9] Guo, W; Skiba, A N, Finite groups with given SS -embedded and nS -embedded subgroups, J. Algebra, 321, 2843-2860, (2009) · [Zbl 1182.20026](#) · [doi:10.1016/j.jalgebra.2009.02.016](#)
- [10] Guo, W; Skiba, A N; Yang, N, SE -supplemented subgroups of finite groups, Rend. Sem. Mat. Univ. Padova, 129, 245-263, (2013) · [Zbl 1287.20025](#) · [doi:10.4171/RSMUP/129-14](#)
- [11] Guo, X; Shum, K P, On cS -normal maximal and minimal subgroups of Sylow pS -subgroups of finite groups, Arch. Math., 80, 561-569, (2003) · [Zbl 1050.20010](#) · [doi:10.1007/s00013-003-0810-4](#)
- [12] Huppert, B., Endliche Gruppen I, Springer-Verlag, Berlin, Heidelberg, New York, 1967. · [Zbl 0217.07201](#) · [doi:10.1007/978-3-642-64981-3](#)
- [13] Kegel, O, Sylow-gruppen and subnormalteiler endlicher gruppen, Math. Z., 78, 205-221, (1962) · [Zbl 0102.26802](#) · [doi:10.1007/BF01195169](#)
- [14] Li, J; Chen, G; Chen, R, On weakly SS -embedded subgroups of finite groups, Sci. China Math., 54, 1899-1908, (2011) · [Zbl 1239.20025](#) · [doi:10.1007/s11425-011-4239-0](#)
- [15] Li, S; Li, Y, On SS -quasinormal and cS -normal subgroups of a finite group, Czechoslovak Math. J., 58, 1083-1095, (2008) · [Zbl 1166.20013](#) · [doi:10.1007/s10587-008-0070-3](#)
- [16] Miao, L, On weakly SS -permutable subgroups of finite groups, Bull. Braz. Math. Soc. New Series, 41, 223-235, (2010) · [Zbl 1221.20014](#) · [doi:10.1007/s00574-010-0011-2](#)
- [17] Robinson, D. J. S., A Course in Theory of Group, Spinger-Verlag, New York, 1982.. [doi:10.1007/978-1-4684-0128-8](#)

- [18] Schmid, P, Subgroups permutable with all Sylow subgroups, *J. Algebra*, 207, 285-293, (1998) · [Zbl 0910.20015](#) · [doi:10.1006/jabr.1998.7429](#)
- [19] Srinivasan, S, Two sufficient conditions for supersolvability of finite groups, *Israel Journal of Mathematics*, 35, 210-214, (1980) · [Zbl 0437.20012](#) · [doi:10.1007/BF02761191](#)
- [20] Thompson, J G, Normal p -complements for finite groups, *J. Algebra*, 1, 43-46, (1964) · [Zbl 0119.26802](#) · [doi:10.1016/0021-8693\(64\)90006-7](#)
- [21] Wang, Y, c -normality of groups and its properties, *J. Algebra*, 180, 954-965, (1996) · [Zbl 0847.20010](#) · [doi:10.1006/jabr.1996.0103](#)
- [22] Wang, Y; Guo, W, Nearly s -normality of groups and its properties, *Comm. Algebra*, 38, 3821-3836, (2010) · [Zbl 1221.20015](#) · [doi:10.1080/00927870903286850](#)
- [23] Wielandt, H., *Subnormal Subgroups and Permutation Groups*, Lectures Given at the Ohio State University, Columbus, Ohio, 1971.

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