

Group factorizations, graphs and related topics

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We study factorizations of groups in the form $G = AB$ with certain conditions on the factors A and B . The structure of the corresponding *soluble graph* gives an information on the composition factors of the group (see [1]). This approach is used also for the investigation of classes of finite groups with restriction on the normalizers of Sylow subgroups in [2]. It turns out that the Sylow graph in this paper is a subgraph of the soluble graph. Some results on the characters of groups are discussed.

References

- [1] B. Amberg, L. Kazarin, On the soluble graph of a finite simple group. *Commun. Algebra* **41** (2013) 2297-2309.
- [2] L. Kazarin, A. Martinez-Pastor, M.D. Perez-Ramos, On the Sylow normalizers finite groups. *J.Algebra and Appl.* **13:3** (2014) 135016-1-20.