

**Minicourse IV: Existence and conjugacy of Hall subgroups.
Contemporary progress and open problems**

Lecturer:

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In the lectures we plan to discuss general methods for answering to the following problems: whether given finite group possesses a π -Hall subgroup for a set of primes π , and how many classes of conjugate π -Hall subgroups the group has.

One of the main technical tool is the notion of a group of induced automorphisms and the inclusion to the wreath product with this group (see [1], and theorem 3 from this paper). We recommend the attendants to read paper [2] also (at least the main part without Appendix).

The course contains 2 lectures.

Reference

- [1] E. P. Vdovin, Groups of induced automorphisms and their application to studying the existence problem for Hall subgroups // Algebra and logic. 2014. Vol. 53, no. 5. P. 418–421. doi:10.1007/s10469-014-9301-x.
- [2] E. P. Vdovin, D. O. Revin, Theorems of Sylow type // Russian Math. Surveys. 2011. Vol. 66, no. 5. P. 829–870.