## Dynamics of primitive elements under group actions

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There has been some substantial work on studying the structure of a group by analyzing the behavior of primitive elements, sometimes under strong assumptions, see [2], [3]. We formulate and study a conjecture of Platonov and Potapchik for general group actions. Using similar dynamical tools, we introduce the notion of Nielsen and Schreier girth and obtain a class of groups with finite Nielsen girth but having infinite girth.

## References

- [1] P. Mishra, Dynamics of primitive elements under group actions, arxiv.org/pdf/2403.16769.
- [2] V. P. Platonov and A. Potapchik, New Combinatorial Properties of Linear Groups, Journal of Algebra 235, (2001) 399–415.
- [3] V. Shpilrain, Generalized primitive elements of a free group, Archiv der Mathematik 71, (1998) 270–278.