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## *Gradients in Group Theory*

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Abstract: Rank and Deficiency gradients quantify the asymptotics of finite approximations of a group. These group invariants have surprising connections with many different areas of mathematics: 3-manifolds,  $L^2$ -Betti numbers, topological dynamics and profinite groups. I will give a survey of the current state of research in Gradients for groups and describe important open questions.

## **References**

- [1] Paper in some journal.
  - [2] Another paper in some journal.
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