

Research Proposal

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My research focuses on algebraic K -theory of group rings and related topics such as Witt vectors, Whitehead groups and Nil-phenomena. My current main objective is to compute the Nil groups of some finite group rings using methods from the K -theory of truncated polynomial rings [1].

1 Background

Algebraic K -theory is a powerful invariant that arises in a number of fields in mathematics. For examples, algebraic K -theory originally arose in algebraic geometry in the theorem of Grothendieck-Riemann-Roch theorem, K -theory of a ring of integers contains information about number fields, and K -theory of group rings is related to geometric topology via the Farrell-Jones conjectures (see, e.g.).

2 Current Projects

More text.

3 Future Directions

4 Time Line and Management Plan

5 Summary: Significance of proposed work

Introduction Literature Review Research Question and Methodology Expected Timeline and Outcomes

References

- [1] Wilberd van der Kallen and Jan Stienstra. The relative K_2 of truncated polynomial rings. In *Proceedings of the Luminy conference on algebraic K-theory (Luminy, 1983)*, volume 34, pages 277–289, 1984.

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