



Ph.D. Thesis Defense

Speaker : *Niladri Patra*
Title : *Irreducibility results in moduli spaces of polynomials*
Date & Time : *Tuesday, 12 November, 2024 at 11:00 a.m. (over Zoom)*

Abstract

In this talk, we will discuss a few irreducibility results in moduli spaces of odd prime degree polynomials with a marked critical point. The results are summarized below.

1. Families of conjugacy classes of polynomials for which the marked critical point is prefixed form irreducible quasi-affine subvarieties of the moduli space.
2. In the quasi-affine varieties mentioned above, the decreasing chain of subfamilies obtained by fixing the ramification index of the marked critical point, consists of irreducible quasi-affine subvarieties, except for the unicritical case.
3. In the unicritical case, these families are finite and each of them forms a single Galois orbit under the action of the absolute Galois group of \mathbb{Q} .
4. In the moduli space of cubic polynomials, conjugacy classes of polynomials for which the marked critical point is eventually 2-periodic are irreducible affine curves.

This talk is based on the thesis “Irreducibility results in moduli spaces of polynomials”. The results above can also be found in the articles [Pat1] and [Pat2].

References

- [Pat1] Patra, Niladri. On irreducibility of prefixed algebraic sets in moduli spaces of prime degree polynomials, math.DS, 2023, arXiv:2305.04778v2
- [Pat2] Patra, Niladri. Irreducibility of eventually 2-periodic curves in the moduli space of cubic polynomials. math.DS, 2023, arXiv:2305.19944v2

Milind Pilankar

Zoom Link and Credentials

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