

Mind your P's and Q's: Invariants and Coinvariants of Representations

Sandy Chen '21 and Sophia Schein '20

We will look at linear representations of invertible matrix groups on the vector space of homogeneous polynomials of two variables. Namely, we are interested in the invariants and coinvariant spaces of these representations. All of our work will be done over a finite field. Our goal for this talk is to characterize a feature of the invariants and coinvariants: when the degree of the polynomial increases, the number of invariants and coinvariants increase in a corresponding amount. We will find formulas for this behavior in the dimension of the spaces.

Date: Tuesday September 24

Time: 7:00 pm

Place: Park 328