学术报告

Polynomial parametrization of algebraic groups over rings

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Abstract： In 1938, Skolem asked a question as to whether the group $SL_n(Z)$ is polynomially parametrized, i.e., there is an element $A(x_1,...,x_d)$ in $SL_n(Z[x_1, x_2,.....,x_d])$ such that every element in $SL_n(Z)$ is of the form $A(r_1, r_2,....,r_d)$ for some integers $r_1,....,r_d$. It was not until 2010 when Vaserstein positively answered this question. One can replace the ring of integers Z by an arbitrary commutative ring R, and ask a similar question as to whether the group $SL_n(R)$ is polynomially parametrized. I will discuss my recent result about the polynomial parametrization of $SL_n(F_q[T])$, where $F_q[T]$ is the ring of polynomials over a finite field F_q, which can be viewed as a function field analogue of Vaserstein's result. I will also discuss my recent result in joint work with Michael Larsen (Indiana University) which generalizes Vaserstein's theorem to an arbitrary number rings.

欢迎大家参加！