



SHORT COURSE

Introduction to Drinfeld modules

Dr. Zhenlin Ran

The University of Hong Kong

Abstract

Drinfeld modules of rank 2 are the analogue of elliptic curves in the world of function fields. One particular difference between Drinfeld modules and elliptic curves is that higher ranks are allowed, and the higher rank Drinfeld modules are the analogue of certain abelian varieties. The full analogue of abelian varieties in the setting of function field is so-called Anderson A-modules, which we shall not touch in this course. This course covers basics of Drinfeld modules from two aspects: the analytic approach and the algebraic theory, like we usually treat elliptic curves (or maybe abelian varieties). I will not presume any knowledge of elliptic curves. Some knowledge of commutative algebra and algebraic number theory will suffice for this course.

Schedule

Lecture 1:	February 2, 2024 (Friday)	2:30 – 4:00pm	Room 320A, Run Run Shaw Building, HKU
Lecture 2:	February 23, 2024 (Friday)		
Lecture 3:	March 1, 2024 (Friday)		
Lecture 4:	March 15, 2024 (Friday)		
Lecture 5:	March 22, 2024 (Friday)		
Lecture 6:	April 5, 2024 (Friday)		
Lecture 7:	April 12, 2024 (Friday)		
Lecture 8:	April 19, 2024 (Friday)		
Lecture 9:	April 26, 2024 (Friday)		
Lecture 10:	April 29, 2024 (Monday)	2:30 – 4:00pm	Room 309, Run Run Shaw Building, HKU