

The Arithmetic of Function Fields

Proceedings of the Workshop at The Ohio State University
June 17–26, 1991

Editors

David Goss
David R. Hayes
Michael I. Rosen



Walter de Gruyter · Berlin · New York 1992

Contents

Preface	v
David R. Hayes	
A Brief Introduction to Drinfeld Modules	1
Y. Hellegouarch	
Galois Calculus and Carlitz Exponentials	33
G. W. Anderson	
A Two-Dimensional Analogue of Stickelberger's Theorem	51
D. S. Thakur	
On Gamma Functions for Function Fields	75
Hassan Oukhaba	
Groups of Elliptic Units in Global Function Fields	87
Keqin Feng	
Class Number "Parity" for Cyclic Function Fields	103
D. S. Dummit	
Genus Two Hyperelliptic Drinfeld Modules over \mathbb{F}_2	117
David Goss	
A Short Introduction to Rigid Analytic Spaces	131
Marc Reversat	
Lecture on Rigid Geometry	143
E.-U. Gekeler	
Moduli for Drinfeld Modules	153
Yuichiro Taguchi	
Ramifications Arising from Drinfeld Modules	171
Jeremy Teitelbaum	
Rigid Analytic Modular Forms: An Integral Transform Approach	189
E. -U. Gekeler and M. Reversat	
Some Results on the Jacobians of Drinfeld Modular Curves	209
David Goss	
Some Integrals Attached to Modular Forms in the Theory of Function Fields ...	227
Jing Yu	
Transcendence in Finite Characteristic	253

Alain Thiery	
Indépendance Algébrique des Périodes et Quasi-périodes d'un Module de Drinfeld	265
L. Denis	
Géométrie Diophantienne sur les Modules de Drinfeld	285
G. Damamme	
Transcendence Properties of Carlitz Zeta-values	303
David Goss	
L -series of t -motives and Drinfeld Modules	313
R. J. Chapman	
Classgroups of Sheaves of Locally Free Modules over Global Function Fields	403
E. de Shalit	
Artin-Schreier-Witt Extensions as Limits of Kummer-Lubin-Tate Extensions, and the Explicit Reciprocity Law	413
Mireille Car	
The Circle Method and the Strict Waring Problem in Function Fields	421
L. N. Vaserstein	
Ramsey's Theorem and Waring's Problem for Algebras over Fields	435
G. Payne and L. N. Vaserstein	
Sums of Three Cubes	443
Daqing Wan	
Heights and Zeta Functions in Function Fields	455
C. Friesen	
Continued Fraction Characterization and Generic Ideals in Real Quadratic Function Fields	465
David Goss	
Dictionary	475