

Contents

Foreword	vii
The Life and Work of Gustav Lejeune Dirichlet (1805–1859) JÜRGEN ELSTRODT	1
An overview of Manin’s conjecture for del Pezzo surfaces T.D. BROWNING	39
The density of integral solutions for pairs of diagonal cubic equations JÖRG BRÜDERN and TREVOR D. WOOLEY	57
Second moments of GL_2 automorphic L -functions ADRIAN DIACONU and DORIAN GOLDFELD	77
CM points and weight $3/2$ modular forms JENS FUNKE	107
The path to recent progress on small gaps between primes D. A. GOLDSTON, J. PINTZ, and C. Y. YILDIRIM	129
Negative values of truncations to $L(1, \chi)$ ANDREW GRANVILLE and K. SOUNDARARAJAN	141
Long arithmetic progressions of primes BEN GREEN	149
Heegner points and non-vanishing of Rankin/Selberg L -functions PHILIPPE MICHEL and AKSHAY VENKATESH	169
Singular moduli generating functions for modular curves and surfaces KEN ONO	185
Rational points of bounded height on threefolds PER SALBERGER	207
Reciprocal Geodesics PETER SARNAK	217
The fourth moment of Dirichlet L -functions K. SOUNDARARAJAN	239
The Gauss Class-Number Problems H. M. STARK	247