

Advanced Studies in Pure Mathematics 30

Class Field Theory – Its Centenary and Prospect

CONTENTS

Shokichi IYANAGA — Memories of Professor Teiji Takagi	1
Maruti Ram MURTY — On Artin L -Functions	13
Günther FREI — How Hasse was led to the Theory of Quadratic Forms, the Local-Global Principle, the Theory of the Norm Residue Symbol, the Reciprocity Laws, and to Class Field Theory	31
Ivan FESENKO — Nonabelian Local Reciprocity Maps	63
Akito NOMURA — Embedding Problems with restricted Ramifications and the Class Number of Hilbert Class Fields	79
Helmut KOCH — The History of the Theorem of Shafarevich in the Theory of Class Formations	87
Masakazu YAMAGISHI — A Survey of p -Extensions	107
Thong NGUYEN QUANG DO — Galois Module Structure of p -Class Formations	123
Thomas ZINK — A Dieudonné Theory for p -Divisible Groups	139
Peter STEVENHAGEN — Hilbert’s 12th Problem, Complex Multiplication and Shimura Reciprocity	161
David R. KOHEL — Hecke Module Structure of Quaternions	177
Ichiro SATAKE — On Classification of Semisimple Algebraic Groups	197
Bill CASSELMAN — The L -Group	217
Roland GILLARD — Groupe des Obstructions pour les Déformations de Représentations Galoisiennes	259
René SCHOOF — Abelian Varieties over $\mathbf{Q}(\sqrt{6})$ with Good Reduction Everywhere	287
Hikomichi YANAI — Hodge Cycles and Unramified Class Fields	307
Noriyuki OTSUBO — Recent Progress on the Finiteness of Torsion Algebraic Cycles	313
Kanetomo SATO — Finiteness of a certain Motivic Cohomology Group of Varieties over Local and Global Fields	325
Ralph GREENBERG — Iwasawa Theory – Past and Present	335
Manabu OZAKI — Iwasawa Invariants of \mathbb{Z}_p -Extensions over an Imaginary Quadratic Field	387
Hisao TAYA — On p -Adic Zeta Functions and Class Groups of \mathbb{Z}_p -Extensions of certain Totally Real Fields	401

Winfried KOHNEN — Class Numbers of Imaginary Quadratic Fields	415
Ryotaro OKAZAKI — On Parities of Relative Class Numbers of certain CM-Extensions	419
Sang Geun HAHN and Dong Hoon LEE — Some Congruences for Binomial Coefficients	445
Jean COUGNARD — Stably Free and Not Free Rings of Integers	463
Mohammed AYADI, Abdelmalek AZIZI and Moulay CHRIF ISMAILI — The Capitulation Problem for certain Number Fields	467
Hiroshi SUZUKI — On the Capitulation Problem	483
Masanori MORISHITA and Takao WATANABE — Adele Geometry of Numbers	509
Takashi ONO — On Shafarevich–Tate Sets	537
Peter ROQUETTE — Class Field Theory in Characteristic p , its Origin and Development	549