Contents

Preface vii

Introduction xi

A study of irreducible polynomials over henselian valued fields via distinguished pairs
K. Aghigh, A. Bishnoi, S. Kumar and S. K. Khanduja 1

On fields of totally $\mathfrak{S}$-adic numbers — With an appendix by Florian Pop
Lior Bary-Soroker and Arno Fehm 11

Infinite towers of Artin-Schreier defect extensions of rational function fields
Anna Blaszczok 16

A refinement of Izumi's Theorem
Sébastien Boucksom, Charles Favre and Mattias Jonsson 55

Multivariable Hodge theoretical invariants of germs of plane curves. II
Pierrette Cassou-Noguès and Anatoly Libgober 82

Existence des diviseurs dicritiques, d'après S.S. Abhyankar
Vincent Cossart, Mickaël Matusinski and Guillermo Moreno-Socías 136

Invariants of the graded algebras associated to divisorial valuations dominating a rational surface singularity
Vincent Cossart, Olivier Piltant and Ana J. Reguera 148

An introduction to C-minimal structures and their cell decomposition theorem
Pablo Cubides Kovacsics 167

Valuation semigroups of Noetherian local domains
Steven Dale Cutkosky 208

Additive polynomials over perfect fields
Salih Durhan 219

On $\mathbb{R}$-places and related topics
Danielle Gondard-Cozette 226

Extending valuations to formal completions
F. J. Herrera Govantes, M. A. Olalla Acosta, M. Spivakovsky and B. Teissier 252

Extending real valuations to skew polynomial rings
A. Granja, M. C. Martínez and C. Rodríguez 266

Stratifications in valued fields
Immanuel Halupczok 288

Imaginaries and definable types in algebraically closed valued fields
Ehud Hrushovski 297

Defects of algebraic function fields, completion defects and defect quotients
Franz-Viktor Kuhlmann and Asim Naseem 320

On generalized series fields and exponential-logarithmic series fields with derivations
Mickaël Matusinski 350

Jet schemes of rational double point singularities
Hussein Mourtada 373

Valuations centered at a two-dimensional regular local domain: infima and topologies
Josnei Novacoski 389

Reduction of local uniformization to the rank one case
Josnei Novacoski and Mark Spivakovsky 404

Little survey on large fields – old & new
Florian Pop 432

Quasi-valuations – topology and the weak approximation theorem
Shai Sarussi 464

Overweight deformations of affine toric varieties and local uniformization
Bernard Teissier 474

Detecting valuations using small Galois groups
Adam Topaz 566

Truncation in Hahn fields
Lou van den Dries 579

The ergodicity of 1-Lipschitz transformations on 2-adic spheres
Ekaterina Yurova 596

Ramification of higher local fields, approaches and questions
Liang Xiao and Igor Zhukov 600