Contents

Preface	v
The Maslov dequantization, idempotent and tropical mathematics: A very brief introduction G. L. LITVINOV	1
Set coverings and invertibility of functional Galois connections MARIANNE AKIAN, STÉPHANE GAUBERT, AND VASSILI KOLOKOLTSOV	19
Discrete max-plus spectral theory Marianne Akian, Stéphane Gaubert, and Cormac Walsh	53
Dequantization of coadjoint orbits: Moment sets and characteristic varieties Ali Baklouti	79
On the combinatorial aspects of max-algebra Peter Butkovič	93
Max-plus convex sets and functions GUY COHEN, STÉPHANE GAUBERT, JEAN-PIERRE QUADRAT, AND IVAN SINGER	105
Algebras of Lukasiewicz's logic and their semiring reducts A. DI NOLA AND B. GERLA	131
Max-plus approaches to continuous space control and dynamic programming WENDELL H. FLEMING AND WILLIAM M. MCENEANEY	145
A blow-up phenomenon in the Hamilton-Jacobi equation in an unbounded domain K. Khanin, D. Khmelev, and A. Sobolevskii	161
The dequantization transform and generalized Newton polytopes G. L. LITVINOV AND G. B. SHPIZ	181
An object-oriented approach to idempotent analysis: Integral equations as optimal control problems PAOLA LORETI AND MARCO PEDICINI	187
Traffic assignment & Gibbs-Maslov semirings P. LOTITO, JP. QUADRAT, AND E. MANCINELLI	209

KAREL ZIMMERMANN

Viscosity solutions on Lagrangian manifolds and connections with tunnelling operators D. McCaffrey	221
Applications of the generated pseudo-analysis to nonlinear partial differential equations ENDRE PAP	239
A generalization of the utility theory using a hybrid idempotent-probabilistic measure ENDRE PAP	261
Amoebas: Their spines and their contours MIKAEL PASSARE AND AUGUST TSIKH	275
First steps in tropical geometry JÜRGEN RICHTER-GEBERT, BERND STURMFELS, AND THORSTEN THEOBALD	289
On minimax and idempotent generalized weak solutions to the Hamilton-Jacobi equation ILYA V. ROUBLEV	319
Dequantisation: Semi-direct sums of idempotent semimodules EDOUARD WAGNEUR	339
On (min, max, +)-inequalities JACOB VAN DER WOUDE AND GEERT JAN OLSDER	353
Solution of some max-separable optimization problems with inequality	

363