# CONTENTS


Preface ix

Large deviations in approximation by Poisson law
*A. Aleškevičienė and V. Statulevičius* 1

Limits of weak interaction for stochastic particle system
*R.R. Ahmitzyanov* 19

Rate of convergence in the limit transfer theorem of the maximum and minimum
*A. Aksomaitis* 35

Geometry of the state spaces in quantum probability
*Sh.A. Ayupov and N.J. Yadgorov* 43

From diffusions to processes with jumps
*L. Beznea and L. Stoica* 53

Central limit theorem in Skorohod spaces and asymptotic strength distribution of fiber bundles
*M. Bloznelis and V. Paulauskas* 75

Ergodicity in a sense of weak convergence, equilibrium-type identities and large deviations for Markov chains
*A.A. Borovkov and D. Korshunov* 89

On second-order properties of mixing random sequences and random fields
*R.C. Bradley and S.A. Utev* 99

Optimal couplings and application to Riemannian geometry
*Mu-Fa Chen* 121

Empirical and partial sum processes with sample path in Banach function spaces
*M. Csörgő and R. Norvaiša* 143

Applications of multi-time parameter processes to change-point analysis
*M. Csörgő and B. Szyszkowicz* 159

Bergström-type asymptotic expansions in the first uniform Kolmogorov's theorem
*V. Čekanavičius* 223

Differentiation of heat semigroups and applications
*K.D. Elworthy and X.-M. Li* 239

On the realisation of classical Markov processes as quantum flows in Fock space
*F. Fagnola* 253

Unimodular eigenvalues and invariant probabilities for some classes of linear operators
*E. Flytzanis and L. Kanakis* 277

On function-indexed partial-sum processes
*P. Gaenssler and K. Ziegler* 285

Canonical spectral equation for the eigenvalues of empirical covariance matrices
*V.L. Girko* 313

Conditionally exponential families and Lundberg exponents of Markov additive processes
*B. Grigelionis* 337

On the nonuniform approximation by means of distributions of sums of conditionally independent random variables
*P. Gudynas* 351

Kolmogorov's strong law of large numbers: the amart point of view
*B. Heinkel* 361

Cycle processes
*S. Kalpazidou* 369

Density-dependent branching processes as randomly perturbed iterations of maps
*F.C. Klebaner* 391

Stability of the inverse Radon transform
*L.B. Klebanov and A.A. Zinger* 401

On conditions for existence of solutions of integral equations with stochastic line integrals
*A.M. Kolodii* 405

Nonlinear transformations of empirical processes: functional inverses and Bahadur–Kiefer representations
*V. Koltchinskii* 423

Rate of convergence in the functional central limit theorem for one-dimensional semimartingales
*K. Kubilius* 447

On limit theorems for the Riemann zeta-function in some spaces
*A. Laurinčikas* 457

A posteriori and sequential methods of change-point detection in FARIMA-type time series
*R. Leipus* 485

Limit theorems for the local density of measures in the hypotheses testing problems of counting processes
*Yu.N. Lin'kov* 497

On the strong independence of sequential ranks
*S.V. Malov* 517

A proof of the Erdős arcsine law
*E. Manstavičius* 533

Phase transitions and divisors
*M. Mendès France and G. Tenenbaum* 541

On the existence of a viscosity solution to the integro-differential Bellman equation
*R. Mikulevičius and H. Pragarauskas* 553

Quasi-state decompositions for quantum spin systems
*B. Nachtergaele* 565

On accuracy of approximation with stable laws
*S. Nagaev* 591

Distributions of processes governed by hyperbolic equations when also boundary conditions are assumed
*E. Orsingher* 605

Central limit theorems on stratified Lie groups
*G. Pap* 613

On the convergence rate in the multi-dimensional martingale CLT
*A. Račkauskas* 629

Stein–Chen method for compound Poisson approximation: the coupling approach
*M. Roos* 645

Some aspects of the development of probabilistic number theory
*W. Schwarz* 661

Mixture of extremal distributions – a model alternative to the log-linear model
*E.-M. Tiit* 703

Infinite-dimensional $M$-estimation
*A.W. van der Vaart* 715

On large deviations in averaging principle for systems of stochastic differential equation with unbounded coefficients
*A.Yu. Veretennikov* 735