

CONTENTS

Volume 52 Number 1

- 1 FRANÇOIS ROUEFF AND PHILIPPE SOULIER. Convergence to stable laws in the space \mathcal{D}
18 R. GARRA, E. ORSINGHER AND F. POLITO. State-dependent fractional point processes
37 RAÚL FIERRO, VÍCTOR LEIVA AND JESPER MØLLER. The Hawkes process with different
exciting functions and its asymptotic behavior
55 KRZYSZTOF DĘBICKI, ENKELEJD HASHORVA AND NATALIA SOJA-KUKIEŁA. Extremes
of homogeneous Gaussian random fields
68 K. M. KOSIŃSKI AND M. MANDJES. Logarithmic asymptotics for multidimensional extremes
under nonlinear scalings
82 VASSILIN. KOLOKOLTSOV. Stochastic monotonicity and duality of k th order with application
to put–call symmetry of powered options
102 NURIA TORRADO AND SUBHASH C. KOCHAR. Stochastic order relations among parallel
systems from Weibull distributions
117 PATRYK MIZIUŁA AND TOMASZ RYCHLIK. Extreme dispersions of semicoherent and
mixed system lifetimes
129 ALBERT FERREIRO-CASTILLA AND KEES VAN SCHAIK. Applying the Wiener–Hopf
Monte Carlo simulation technique for Lévy processes to path functionals
149 HANCHAO WANG. The Euler scheme for a stochastic differential equation driven by pure
jump semimartingales
167 BRUNO BUONAGUIDI AND PIETRO MULIERE. On the disorder problem for a negative
binomial process
180 ERNST SCHULTE-GEERS AND WOLFGANG STADJE. Maximal percentages in Pólya’s urn
191 DAVID LANDRIault, BIN LI AND HONGZHONG ZHANG. On the frequency of
drawdowns for Brownian motion processes
209 ZHENGJUN JIANG. Optimal dividend policy when cash reserves follow a jump-diffusion
process under Markov-regime switching
224 LI-JUAN CHENG AND YONG-HUA MAO. Eigentime identity for one-dimensional diffusion
processes
238 YOUZHOU ZHOU. Ergodic inequality of two-parameter infinitely-many-alleles diffusion model
247 A. V. KALINKIN AND A. V. MASTIKHIN. A limit theorem for a Weiss epidemic process
258 ERIC FOXALL. New results for the two-stage contact process
269 BABAK HAJI AND SHELDON M. ROSS. A queueing loss model with heterogeneous skill
based servers under idle time ordering policies
278 ERIK A. VAN DOORN. Representations for the decay parameter of a birth–death process based
on the Courant–Fischer theorem

Short Communications

- 290 HOSAM M. MAHMOUD AND MARK DANIEL WARD. Asymptotic properties of protected
nodes in random recursive trees
298 MARTIN EGOZCUE AND LUIS FUENTES GARCÍA. An optimal threshold strategy in the
two-envelope problem with partial information

Letter to the Editor

- 305 S. ASHRAFI AND M. ASADI. On Ashrafi and Asadi (2014)

Research Papers

- 307 KRISTIAN DEBRABANT AND ANDREAS RÖBLER. On the acceleration of the multi-level Monte Carlo method
- 323 MIHÁLY KOVÁCS, STIG LARSSON AND FREDRIK LINDGREN. On the backward Euler approximation of the stochastic Allen–Cahn equation
- 339 AJAY JASRA. On the behaviour of the backward interpretation of Feynman–Kac formulae under verifiable conditions
- 360 ANTONIO DI CRESCENZO, BARBARA MARTINUCCI AND SHELEMYAHU ZACKS. Compound Poisson process with Poisson subordinator
- 375 ÁGNES BACKHAUSZ AND TAMÁS F. MÓRI. Asymptotic properties of a random graph with duplications
- 391 CHRISTOPHE ANDRIEU, GERSENDE FORT AND MATTI VIHOLA. Quantitative convergence rates for subgeometric Markov chains
- 405 EMMANUELLE ANCEAUME, YANN BUSNEL AND BRUNO SERICOLA. New results on a generalized coupon collector problem using Markov chains
- 419 ROLANDO CAVAZOS-CADENA, RAÚL MONTES-DE-OCA AND KAREL SLADKÝ. Sample-path optimal stationary policies in stable Markov decision chains with the average reward criterion
- 441 XIAO WU AND XIANPING GUO. First passage optimality and variance minimisation of Markov decision processes with varying discount factors
- 457 N. G. BEAN, R. ELLIOTT, A. ESHRAGH AND J. V. ROSS. On binomial observations of continuous-time Markovian population models
- 473 YONIT BARRON. A fluid EOQ model with Markovian environment
- 490 JEAN-LUC MARICHAL. Algorithms and formulae for conversion between system signatures and reliability functions
- 508 ALESSANDRO D’ANDREA AND LUCA DE SANCTIS. The Kruskal–Katona theorem and a characterization of system signatures
- 519 JERE KOSKELA, PAUL JENKINS AND DARIO SPANÒ. Computational inference beyond Kingman’s coalescent
- 538 AMAURY LAMBERT AND CHUNHUA MA. The coalescent in peripatric metapopulations
- 558 JI HWAN CHA AND INMA T. CASTRO. A stochastic failure model with dependent competing risks and its applications to condition-based maintenance
- 574 F. G. BADÍA AND C. SANGÜESA. The DFR property for counting processes stopped at an independent random time

Short Communications

- 586 CHRISTIAN BENDER, MIKKO S. PAKKANEN AND HASANJAN SAYIT. Sticky continuous processes have consistent price systems
- 595 DIRK VEESTRAETEN. A recursion formula for the moments of the first passage time of the Ornstein–Uhlenbeck process
- 602 MARK HUBER AND NEVENA MARIĆ. Multivariate distributions with fixed marginals and correlations

Research Papers

- 609 HENDRIK BAUMANN AND WERNER SANDMANN. Bounded truncation error for long-run averages in infinite Markov chains
- 622 HARRY CRANE AND PETER MCCULLAGH. Reversible Markov structures on divisible set partitions
- 636 DAVID APPLEBAUM AND STEFAN BLACKWOOD. The Kalman–Bucy filter for integrable Lévy processes with infinite second moment
- 649 YOORA KIM, IREM KOPRULU AND NESS B. SHROFF. First exit time of a Lévy flight from a bounded region in \mathbb{R}^N
- 665 ESTHER FROSTIG. The moments of the discounted loss and the discounted dividends for a spectrally negative Lévy risk process
- 688 KRZYSZTOF DEBICKI, ENKELEJD HASHORVA AND LANPENG JI. Parisian ruin of self-similar Gaussian risk processes
- 703 AMOGH DESHPANDE. On the role of Föllmer–Schweizer minimal martingale measure in risk-sensitive control asset management
- 718 P. TARDELLI. Partially informed investors: hedging in an incomplete market with default
- 736 MICHAEL FALK, MARTIN HOFMANN AND MAXIMILIAN ZOTT. On generalized max-linear models and their statistical interpolation
- 752 LARS HOLST AND TAKIS KONSTANTOPOULOS. Runs in coin tossing: a general approach for deriving distributions for functionals
- 771 ROBERT J. ELLIOTT, TAK KUEN SIU AND SAMUEL N. COHEN. Backward stochastic difference equations for dynamic convex risk measures on a binomial tree
- 786 PARISA FATHEDDIN. Central limit theorem for a class of SPDEs
- 797 KONSTANTINOS SPILIOPOULOS. Nonasymptotic performance analysis of importance sampling schemes for small noise diffusions
- 811 YVES ATCHADÉ AND YIZAO WANG. On the convergence rates of some adaptive Markov chain Monte Carlo algorithms
- 826 FABRICE GUILLEMIN AND BRUNO SERICOLA. Volume and duration of losses in finite buffer fluid queues
- 841 MARK BROWN. Sharp bounds for exponential approximations under a hazard rate upper bound
- 851 SERKAN ERYILMAZ. Component importance in coherent systems with exchangeable components
- 864 THOMAS O. MCDONALD AND MAREK KIMMEL. A multitype infinite-allele branching process with applications to cancer evolution
- 877 VLADIMIR VATUTIN AND QUANSHENG LIU. Limit theorems for decomposable branching processes in a random environment

Short Communications

- 894 HENRY W. BLOCK, NAFTALI A. LANGBERG AND THOMAS H. SAVITS. The limiting failure rate for a convolution of life distributions
- 899 KEN'ICHI KAWANISHI AND TETSUYA TAKINE. A note on the virtual waiting time in the stationary PH/M/c+D queue

Letter to the Editor

- 904 HÜSEYİN ACAN AND PAWEŁ HITCZENKO. On the covariances of outdegrees in random plane recursive trees

- 908 Correction

Research Papers

- 909 DACHENG YAO, XIULI CHAO AND JINGCHEN WU. Optimal control policy for a Brownian inventory system with concave ordering cost
- 926 MITSUSHI TAMAKI. On the optimal stopping problems with monotone thresholds
- 941 XIULI CHAO, QI-MING HE AND SHELDON ROSS. Tollbooth tandem queues with infinite homogeneous servers
- 962 FABRICE M. GUILLEMIN AND RAVI R. MAZUMDAR. Conditional Sojourn times and the volatility of payment schemes for bandwidth sharing in packet networks
- 981 B. S. EL-DESOUKY, F. A. SHIHA AND A. M. MAGAR. On a generalization of a waiting time problem and some combinatorial identities
- 990 LINA ZHANG AND JUNPING LI. The M/M/c queue with mass exodus and mass arrivals when empty
- 1003 LAURENT DECREUSEFOND, IAN FLINT AND ANAIS VERGNE. A note on the simulation of the Ginibre point process
- 1013 HARRY CRANE AND PETER MCCULLAGH. Poisson superposition processes
- 1028 ENZO ORSINGHER AND BRUNO TOALDO. Counting processes with Bernštein intertimes and random jumps
- 1045 LUISA BEGHIN, ROBERTO GARRA AND CLAUDIO MACCI. Correlated fractional counting processes on a finite-time interval
- 1062 MATS PIHLSGÅRD. Local martingales with two reflecting barriers
- 1076 ALEKSANDAR MIJATOVIĆ, MARTIJN R. PISTORIUS AND JOHANNES STOLTE. Randomisation and recursion methods for mixed-exponential Lévy models, with financial applications
- 1097 AMARJIT BUDHIRAJA AND PIERRE NYQUIST. Large deviations for multidimensional state-dependent shot-noise processes
- 1115 KRZYSZTOF BARTOSZEK AND SERIK SAGITOV. Phylogenetic confidence intervals for the optimal trait value
- 1133 KRISHNA B. ATHREYA AND VIVEKANANDA ROY. Estimation of integrals with respect to infinite measures using regenerative sequences
- 1146 SVANTE JANSON. On degenerate sums of m -dependent variables
- 1156 ANTONIO DI CRESCENZO AND ABDOLSAEED TOOMAJ. Extension of the past lifetime and its connection to the cumulative entropy

Short Communications

- 1175 FABRIZIO DURANTE, JUAN FERNÁNDEZ-SÁNCHEZ AND WOLFGANG TRUTSCHNIG. On the singular components of a copula
- 1183 MARIA KAMIŃSKA-ZABIEROWSKA AND JORGE NAVARRO. Erratum to: Mixture representations of residual lifetimes of used systems
- 1187 BRUNO BUONAGUIDI. A remark on optimal variance stopping problems
- 1195 PETER WINDRIDGE. The extinction time of a subcritical branching process related to the SIR epidemic on a random graph
- 1202 Correction
- 1204 Index

Subscription rates

Subscription rates for volume **52** (2015) of *Journal of Applied Probability* (JAP) are as follows (post free and including online access at <http://projecteuclid.org/jap/>): US\$344.00; A\$387.00; £222.00 for libraries and institutions; or US\$116.00; A\$131.00; £75.00 for individuals belonging to a recognised scientific society. The subscription rates for volume **47** (2015) of *Advances in Applied Probability*, the companion publication, are the same; if both journals are ordered directly from the Applied Probability office at the same time, the combined price is discounted by 10%. Please send all enquiries to: Applied Probability Subscriptions, School of Mathematics and Statistics, University of Sheffield, Sheffield S3 7RH, UK (telephone +44 114 222 3922; fax +44 114 222 3926; email s.c.boyles@sheffield.ac.uk). Cheques, money orders, etc. should be made payable to 'Applied Probability'. Payment is acceptable in US, Australian or UK currency, or by Visa or Mastercard. We can provide back issue prices on application.

Notes for contributors

A submission to Applied Probability is considered as a submission to either *Journal of Applied Probability* (JAP) or *Advances in Applied Probability* (AAP). Longer papers are typically published in AAP, but the assignation of papers between the two journals is made by the Editor-in-Chief on an issue-by-issue basis. Short communications and letters specifically relating to papers appearing in either JAP or AAP are published in JAP.

Papers submitted to the Applied Probability journals are considered on the understanding that they have not been published previously and are not under consideration by another publication. Accepted papers will not be published elsewhere without the written permission of the Trust. Submitted papers should be in English. It is the author's responsibility to ensure an acceptable standard of language, and a paper failing to meet this requirement may go back to the author for rewriting before being sent out for review.

Papers should include: (i) a **short abstract** of 4–10 lines giving a non-mathematical description of the subject matter and results; (ii) a list of **keywords** detailing the contents; and (iii) a list of **classifications**, using the 2010 Mathematics Subject Classification scheme (<http://www.ams.org/msc/>). Letters to the Editor need not include these. To assist authors in writing papers in the Applied Probability style, they may use the L^AT_EX class file `aptpub.cls`, available from <http://www.appliedprobability.org/>. Use of this class file is not a condition of submission, but will considerably increase the speed at which papers are processed.

Papers should be submitted as hard copy or as electronic files. All submissions will be acknowledged on receipt and **must be accompanied by a covering letter stating the author's postal address and affiliation**. Hard copy: Send **all** submissions to the Applied Probability office in Sheffield, and not to individual editors. Two copies of the paper, at least one of which should be double spaced, should be sent to: **Executive Editor, Applied Probability, School of Mathematics and Statistics, University of Sheffield, Sheffield S3 7RH, UK**. Electronic submission: Please email a **double-spaced** PostScript™ (.ps) or portable document format (.pdf) file, not exceeding 1 Mb. **The files must be clearly identified by name in a separate covering message**. The address for email submissions is submissions_japaap@sheffield.ac.uk.

Copyright

The copyright of all published papers is vested in the Applied Probability Trust. When a paper is accepted for publication, the Trust asks the authors to assign copyright by signing a form in which the terms of copyright are listed. Failure to do this promptly may delay or prevent publication.

Authorisation to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by the Applied Probability Trust for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the corresponding processing and royalty fees (see <http://www.copyright.com>) are paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923, USA. 0021–9002/15

PRINTED IN EUROPE BY HENRY LING LIMITED, DORSET

Research Papers

- 909 DACHENG YAO, XIULI CHAO AND JINGCHEN WU. Optimal control policy for a Brownian inventory system with concave ordering cost
- 926 MITSUSHI TAMAKI. On the optimal stopping problems with monotone thresholds
- 941 XIULI CHAO, QI-MING HE AND SHELDON ROSS. Tollbooth tandem queues with infinite homogeneous servers
- 962 FABRICE M. GUILLEMIN AND RAVI R. MAZUMDAR. Conditional Sojourn times and the volatility of payment schemes for bandwidth sharing in packet networks
- 981 B. S. EL-DESOUKY, F. A. SHIHA AND A. M. MAGAR. On a generalization of a waiting time problem and some combinatorial identities
- 990 LINA ZHANG AND JUNPING LI. The $M/M/c$ queue with mass exodus and mass arrivals when empty
- 1003 LAURENT DECREUSEFOND, IAN FLINT AND ANAIS VERGNE. A note on the simulation of the Ginibre point process
- 1013 HARRY CRANE AND PETER MCCULLAGH. Poisson superposition processes
- 1028 ENZO ORSINGHER AND BRUNO TOALDO. Counting processes with Bernstein intertimes and random jumps
- 1045 LUISA BEGHIN, ROBERTO GARRA AND CLAUDIO MACCI. Correlated fractional counting processes on a finite-time interval
- 1062 MATS PIHLSGÅRD. Local martingales with two reflecting barriers
- 1076 ALEKSANDAR MIJATOVIĆ, MARTIJN R. PISTORIUS AND JOHANNES STOLTE. Randomisation and recursion methods for mixed-exponential Lévy models, with financial applications
- 1097 AMARJIT BUDHIRAJA AND PIERRE NYQUIST. Large deviations for multidimensional state-dependent shot-noise processes
- 1115 KRZYSZTOF BARTOSZEK AND SERIK SAGITOV. Phylogenetic confidence intervals for the optimal trait value
- 1133 KRISHNA B. ATHREYA AND VIVEKANANDA ROY. Estimation of integrals with respect to infinite measures using regenerative sequences
- 1146 SVANTE JANSON. On degenerate sums of m -dependent variables
- 1156 ANTONIO DI CRESCENZO AND ABDOLSAEED TOOMAJ. Extension of the past lifetime and its connection to the cumulative entropy

Short Communications

- 1175 FABRIZIO DURANTE, JUAN FERNÁNDEZ-SÁNCHEZ AND WOLFGANG TRUTSCHNIG. On the singular components of a copula
- 1183 MARIA KAMIŃSKA-ZABIEROWSKA AND JORGE NAVARRO. Erratum to: Mixture representations of residual lifetimes of used systems
- 1187 BRUNO BUONAGUIDI. A remark on optimal variance stopping problems
- 1195 PETER WINDRIDGE. The extinction time of a subcritical branching process related to the SIR epidemic on a random graph
- 1202 Correction
- 1204 Index