

# THE ANNALS of APPLIED PROBABILITY

AN OFFICIAL JOURNAL OF THE  
INSTITUTE OF MATHEMATICAL STATISTICS

## Articles

Relative frequencies in multitype branching processes ANDREI Y. YAKOVLEV AND NIKOLAY M. YANEV	1
Degenerate diffusions arising from gene duplication models RICK DURRETT AND LEA POPOVIC	15
Integrated functionals of normal and fractional processes BORIS BUCHMANN AND NGAI HANG CHAN	49
Matrix norms and rapid mixing for spin systems MARTIN DYER, LESLIE ANN GOLDBERG AND MARK JERRUM	71
A Berry–Esseen theorem for sample quantiles under weak dependence S. N. LAHIRI AND S. SUN	108
The calculation of expectations for classes of diffusion processes by Lie symmetry methods . . . . . MARK CRADDOCK AND KELLY A. LENNOX	127
Gaussian limits for generalized spacings YU. BARYSHNIKOV, MATHEW D. PENROSE AND J. E. YUKICH	158
Reaching the best possible rate of convergence to equilibrium for solutions of Kac’s equation via central limit theorem EMANUELE DOLERA, ESTER GABETTA AND EUGENIO REGAZZINI	186
Inverse problems for regular variation of linear filters, a cancellation property for $\sigma$ -finite measures and identification of stable laws. . . . . MARTIN JACOBSEN, THOMAS MIKOSCH, JAN ROSIŃSKI AND GENNADY SAMORODNITSKY	210
Fluid limits for networks with bandwidth sharing and general document size distributions . . . . . H. CHRISTIAN GROMOLL AND RUTH J. WILLIAMS	243
A phase transition for competition interfaces PABLO A. FERRARI, JAMES B. MARTIN AND LEANDRO P. R. PIMENTEL	281
Coupled paraxial wave equations in random media in the white-noise regime . . . . . JOSSELIN GARNIER AND KNUT SØLNA	318
Large portfolio losses: A dynamic contagion model . . . . . PAOLO DAI PRA, WOLFGANG J. RUNGALDIER, ELENA SARTORI AND MARCO TOLOTTI	347
Adaptive independent Metropolis–Hastings LARS HOLDEN, RAGNAR HAUGE AND MARIT HOLDEN	395
Crested products of Markov chains . . . . . DANIELE D’ANGELI AND ALFREDO DONNO	414
On the uniqueness of the infinite cluster of the vacant set of random interlacements AUGUSTO TEIXEIRA	454
ROC and the bounds on tail probabilities via theorems of Dubins and F. Riesz ERIC CLARKSON, J. L. DENNY AND LARRY SHEPP	467