

5th International Workshop on Statistical Physics and Mathematics for Complex Systems (SPMCS 2017)

Journal of Physics: Conference Series
Volume 1113

Wuhan, China
12 - 15 October 2017

Editors:

Wei Li
Sumiyoshi Abe
Alexandre Wang

ISBN: 978-1-5108-8014-6
ISSN: 1742-6588

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by the Institute of Physics
All rights reserved. The material featured in this book is subject to
IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2019)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of contents

Volume 1113

5th International Workshop on Statistical Physics and Mathematics for Complex Systems (SPMCS2017) 12–15 October 2017, Wuhan, China

Accepted papers received: 17 October 2018 Published online: 20 December 2018

Prelims

[5th International Workshop on Statistical Physics and Mathematics for Complex Systems \(SPMCS2017\)](#)

[Peer review statement](#)

Papers

[Bayesian approach to extreme-value statistics based on conditional maximum-entropy method](#)

Sumiyoshi Abe.....1

[Universality and scaling in human and social systems](#)

Chin-Kun Hu.....5

[A true least action principle for damped motion](#)

Qiuping A. Wang and Ru Wang.....22

[Dynamical fluctuations in temporal networks based on factorial moment approach](#)

Liping Chi and Chunbin Yang.....27

[Relationship between the degree exponent and its associated timeseries' hurst exponent of a static scale-free network — Under the viewpoint of mutual representation between timeseries and network graph](#)

Jie Liu, Hongling Liu, Jian Jiang and Bengong Zhang.....34

[The Spatial SIS model of epidemic spreading on networks](#)

Zi Hui.....44

[The principle of least effort and Zipf distribution](#)

Yueying Zhu, Benwei Zhang, Qiuping A. Wang, Wei Li and Xu Cai.....50

[Mean-field theory for the Nagel-Schreckenberg model with overtaking strategy](#)

Zhu Su, Weibing Deng, Jihui Han, Wei Li and Xu Cai.....61

[The stock market learned as Ising model](#)

Longfeng Zhao, Weiqi Bao and Wei Li.....72

[The robustness of worldwide metro networks](#)

Longfeng Zhao, Wei Li and Yueying Zhu.....78

[Critical behavior of a generalized Bak-Sneppen model](#)

Jihui Han, Wei Li and Weibing Deng.....84

[On quantum-mechanical origin of statistical mechanics](#)

Yuho Yokoi and Sumiyoshi Abe.....93

[Composition of Fractals](#)

Y. Lanoiselée, L. Nivanen, A. El Kaabouchi and Q. A. Wang.....98

[An agent-based modeling for housing prices with bounded rationality](#)

Weiping Wang, Saini Yang, Fuyu Hu, Zhangang Han and Carlo Jaeger.....117

[Comparative study of discrete Boltzmann model and Navier-Stokes](#)

Yudong Zhang, Aiguo Xu and Guangcai Zhang.....126

[Scientific collaborations within a university: From the viewpoint of complex networks](#)

Weiquan Dong, Yizhen Yu and Xingang Wang.....131

[Nonlinear cross-correlation among worldwide indexes](#)

Min Lin, Longfeng Zhao and Yanjin Li.....140

[Measurement of phonetic differences in Guangxi dialects](#)

Ruyue Sun and Jiawei Chen.....148

[Key nodes mining of root network and phoneme network of modern Chinese characters](#)

Rong Huang, Quanyu Zou, Kaiyu Xu, Mingyang Cai, Wenjun Zhang, Weibing Deng and Bo Liu.....155

[Uncovering the role of signs' configuration in epidemic spreading on a signed social network](#)

Fujuan Gao, Long Guo and Zhongjie Luo.....165

[Investigate the relationship between learners' social characteristics and academic achievements](#)

Zhi Liu, Lingyun Kang, Zhu Su, Sannyuya Liu and Jianwen Sun.....173