SMMA 2018

September 15-17, 2018
Chongqing, China

International Conference on Statistics, Mathematical Modelling and Analysis

2018年统计、数学建模与分析学术研讨会

Registration

Countdown

204 days

Template for Manuscripts

0

Important Dates

Conference:
Sep. 15-17, 2018
Full Paper Due: May 25, 2018
Abstract Due: May 25, 2018
Audience Registration Due:
Sep. 15, 2018

International Conference on Statistics, Mathematical Modelling and Analysis (SMMA 2018) will be held from September 15-17, 2018 in Chongqing, China. This Conference will cover issues on Statistics, Mathematical Modelling and Analysis. SMMA 2018 is sponsored by Engineering Information Institute, Open Access Library, Scientific Research Publishing, and 1000thinktank. It dedicates to creating a stage for exchanging the latest research results and sharing the advanced research methods.

Widely acknowledged as the largest industrial and economic center in southwestern China, Chongqing City is a popular destination for travelers with its hilly slopes, rivers, night views and spicy food. Meaning "double celebrations" in Chinese, the city was built in the 11th century BC during the Zhou Dynasty. The city was founded in 1997. Prior to then, it was a city in Sichuan Province. Now Chongqing is the biggest city in China in terms of area and population.

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Speakers

Prof. Fuxia Cheng
Illinois State University, USA

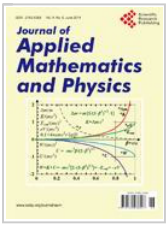
Dr. Patrycja Maciaszek
Jagiellonian University, Poland

Prof. Carlos Manuel Agra Coelho
Universidade Nova de Lisboa, Portugal

Prof. Xikui Wang
University of Manitoba, Canada

Dr. M.L. AGGARWAL
NAAC Accredited 'A' Grade State Govt. University, India

Publication and Presentation



All the accepted papers will be published by "Journal of Applied Mathematics and Physics" (ISSN: 2327-4352), a peer-reviewed open access journal that can ensure the widest dissemination of your published work, For more information, please visit: http://www.scirp.org/journal/jamp/.
You're welcome to submit abstracts for presentation. The abstracts are only used for an oral presentation and will not be published in the conference journal.

Organizer & Sponsor

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Part I Conference Schedule

Time: September 15-17, 2018
Location: Chongqing Yangtze Island Hotel (重庆扬子岛酒店)

Date	Time	Lobby
Sept. 15	**14:00-17:00**	**Registration**
Date	**Time**	**HAINA (海纳) (9th Floor)**
Sept. 16	**08:30-12:00**	**Engineering** **Invited Speech Session & Technical Session:** **Chair: Prof. Jinzhang Liu** **Group photo & Coffee Break: 10:30-10:50**
	12:00	**Lunch ISLAND CAFETERIA 艾伦多自助餐厅, 8th Floor**
	Time	**HAINA (海纳) (9th Floor)**
	14:00-18:00	**Mathematics** **Invited Speech Session & Technical Session:** **Chair: Prof. Wanyang Dai** **Group photo & Coffee Break: 16:00-16:20**
	18:00	**Dinner Chinese Restaurant 中餐厅, 27th Floor**

Part II Invited Speech

Engineering: Invited Speech Session

Invited Speech 1: Supramolecular Electrochemical Cell of Lithium Ion Encapsulated Fullerene with Porphyrinoids

Speaker: Prof. Kei OHKUBO, Osaka University, Japan
Time: 08:30-09:10, Sunday Morning, September 16, 2018
Location: HAINA (海纳), 9th Floor, Chongqing Yangtze Island Hotel

Abstract

Extensive efforts have so far been devoted to design and synthesize electron donor-acceptor linked molecules to achieve efficient photoinduced charge separation. We have recently designed and synthesized simple electron donor-acceptor supramolecular complexes composed of lithium ion encapsulated fullerene (Li+@C60) with porphyrin and phthalocyanines and chlorin derivatives. Photoinduced electron-transfer dynamics were examined by femto- and nanosecond laser flash photolysis. The charge-separated states were detected as the transient absorption spectra, where Li+@C60 radical anion of charge-separated state has a specific absorption at 1035 nm. The lifetimes of charge-separated state were determined from the decay of the absorbance at 1035 nm. The lifetime was 230 s in the case of a supramolecule between anionic porphyrin and Li+@C60 in PhCN. The long-lived charge-separation was also confirmed by EPR spectroscopy . Photoelectrochemical measurements were performed using a standard two-electrode system consisting of a working electrode and a Pt wire gauze electrode in air-saturated MeCN containing LiI and I2. The maximum IPCE values in the case of OTE/SnO2/(ZnTPPS4–/ Li+@C60)n attained in these experiments was 77% at 450 nm . The photocurrent generation occurred via photoinduced electron transfer from ZnTPPS4– to Li+@C60 in the supramolecular nanoclusters.

Invited Speech 2: Increasing the Capacitance of Graphene-Based Supercapacitor Electrodes by Functionalization with Small Organic Molecules

Speaker: Prof. Jinzhang Liu, Beihang Universitysity, China
Time: 09:10-09:50, Sunday Morning, September 16, 2018
Location: HAINA (海纳), 9th Floor, Chongqing Yangtze Island Hotel

Abstract

To date, graphene-based electric double-layer supercapacitors have not shown the remarkable specific capacitance as theoretically predicted. An efficient strategy towards boosting the overall capacitance is to endow graphene with pseudocapacitance. Herein, small aromatic molecules are rationally selected from a vast number of existing species to functionalize N-doped graphene (NG) via π-π interaction and the resulting enhanced electrochemical energy storage is reported. These aromatic molecules in monolayer form on graphene contribute strong pseudocapacitance. To understand factors of small molecules that influence the resulting capacitance, molecules containing amino or hydroxyl groups and their isomers are compared in terms of pseudocapacitance and redox behaviors. Not only excellent organic molecules are found to match graphene for boosting the specific capacitance of electrodes, but also an insight into the inherent factors of molecules related to the pseudocapacitance strength is provided.

Invited Speech 3: SULFATE REMOVAL By PHYTOREMEDIATION

Speaker: Prof. Hossein Ganjidoust, Tarbiat Modares University, Iran
Time: 09:50-10:30, Sunday Morning, September 16, 2018
Location: HAINA (海纳), 9th Floor, Chongqing Yangtze Island Hotel

Abstract

One of the low cost treatment of wastewater is Phytoremediation. This has also the advantages of less operational complexity, with low energy consumption and no need for sludge disposal. In this study, hydroponic plantation was chosen for assessment of two kinds of pervasive swamp plants including pampas grass and bamboo, in sulfate removal. For this reason, the importance of pH factor and determination of detention time, the plants were got into two different distinctive experiments. After determination of the optimum detention time of 7 days, 3 periodic main experiments with 3 repetitions for each concentration were done for the evaluation of removal efficiency and sulfate massive absorption. Statistical T-Test has also been done in the order of 5% significance. The results indicated the importance of pH in both external efficiency and massive sorption for both plants. Finally, the removal efficiency in pampas grass for all concentrations of 50, 200, 300, 600, 900, 1200, 1500 and 3000 mg/L were 44, 36, 34, 31,

16, 10, 8 and 4 percent, respectively, which were up to 50% more than the one by bamboos. Similarly, in terms of dry weight upon accumulated absorption the best ratio achieved in 600 mg/L which was about 10 for both Pampas grass and Bamboo.

Invited Speech 4: THERMOELECTRIC PROPERTIES OF GRAPHITE INTERCALATED COMPOUNDS

Speaker: Prof. N.D. Subasinghe, National Institute of Fundamental Studies, Sri Lanka
Time: 10:50-11:30, Sunday Morning, September 16, 2018
Location: HAINA (海纳), 9th Floor, Chongqing Yangtze Island Hotel

Abstract

During energy conversions, most of the energy is lost as heat. According to the statistical results worldwide, this amount is not less than 60%. If any part of the waste heat can be converted back to useful energy, it will certainly improve the overall efficiency of the process and contribute to reduce the energy usage. Despite current developments in the field of renewable energy, still the world is heavily dependent on fossil fuels for energy needs, causing the global climate change, as well as other indirect problems such as econo-political conflicts. Recovering the waste heat energy is as important as developing more efficient technology in power generation and distribution. Thermoelectric material can convert heat energy, especially waste heat, into electricity directly, using Seebeck effect. Development of high performance thermoelectric materials, capable of directly converting heat to electrical energy, has received attention both from energy and environment fields. A dimensionless figure of merit (ZT) is used to measure the effective thermoelectric performance of a material. Good electrical conductivity, lower thermal conductivity and high Seebeck coefficients increase the ZT value. In the recent past, the most significant materials in the field of thermoelectrics with high ZT, are Bismuth or Lead chalcogenides. Some other TE materials developed in recent years include Half-Heusler alloys, Skutterudites and caged-free Cu-based diamond like compounds, layered oxychalcogenides (i.e. BiCuSeO), SnTe-AgSbSe2 composites, Quaternary Cu2CdSnSe4 etc. However, due to low earth abundance, high material synthesis cost, toxicity etc. globally, research groups have focused their attention on developing alternative TE material. Graphite has shown promising thermoelectric properties, leading many scientists worldwide to research on graphite and graphite related material for thermoelectric applications. Graphite, having highly ordered hexagonal carbon planes bound each other by weak Van der Waals bonds, makes easy for many chemical species, known as intercalant, to intercalate between the graphite layers to form Graphite Intercalated Compounds (GICs). The electrical conductivity of GICs is much higher than that of host graphite itself due to the charge transfer occurring between the intercalated species and adjacent graphite layers. In GICs, the electrical conductivity is mainly due to the electrical carriers. Therefore increasing the carrier density, i.e. increase in the intercalate concentration leads GICs to have higher electrical conductivity Recent

discoveries and trends in graphite intercalated material are discussed here with some results from the work carried out by the researcher.

Mathematics: Invited Speech Session

Invited Speech 1: Statistical design and analysis of response adaptive clinical trials

Speaker: Prof. Xikui Wang, University of Manitoba, Canada
Time: 14:00-14:40, Sunday Afternoon, September 16, 2018
Location: HAINA (海纳), 9th Floor, Chongqing Yangtze Island Hotel

Abstract
Clinical trials are regarded as the most reliable way to evaluate the efficacy of new medical interventions. This practice has taken a prominent role in modern clinical research. However clinical experimentation on human subjects requires a careful balancing act between the benefit of the collective and the benefit of the individual. This talk is focused on statistical design and analysis of response adaptive Phase III clinical trials, which represent recent advancements in clinical trial methodology. The adaptive designs help balance the ethical issues and improve efficiency without undermining the validity and integrity of the clinical research. The talk is based on joint work with several graduate students.

Invited Speech 2: Stochastic Game with Big Data within Cloud-Computing and Blockchain

Speaker: Prof. Wanyang Dai, Nanjing University, China
Time: 14:40-15:20, Sunday Afternoon, September 16, 2018
Location: HAINA (海纳), 9th Floor, Chongqing Yangtze Island Hotel

Abstract
We develop a generic game platform that can be used to model various real-world systems with multiple intelligent cloud-computing pools and parallel-queues for resources-competing users. Inside the platform, the software structure is modeled as Blockchain. All the users are associated with Big Data arrival streams whose random dynamics is modeled by triply stochastic renewal reward processes. Each user may be served simultaneously by multiple pools while each pool with parallel-servers may also serve multi-users at the same time via smart policies in the Blockchain, e.g., a Nash equilibrium point myopically at each fixed time to a game-theoretic scheduling problem. To illustrate the effectiveness of our game platform, we model the performance measures of its internal data flow

dynamics (queue length and workload processes) as reflecting diffusion with regime-switchings (RDRSs) under our scheduling policies. By RDRS models, we can prove our myopic game-theoretic policy to be an asymptotic Pareto minimal-dual-cost Nash equilibrium one globally over the whole time horizon to a randomly evolving dynamic game problem. Iterative schemes for simulating our multi-dimensional RDRS models are also developed with the support of numerical comparisons.

Invited Speech 3: A likelihood ratio test for the equality of canonical correlations

Speaker: Prof. Carlos Manuel Agra Coelho, Universidade Nova de Lisboa, Portugal
Time: 15:20-16:00, Sunday Afternoon, September 16, 2018
Location: HAINA (海纳), 9th Floor, Chongqing Yangtze Island Hotel

Abstract

Canonical correlations are a much interesting and useful measure of association between two sets of variables and their study and analysis lies as the basis of many of the linear models commonly used, from (Multivariate) Linear Regression to Discriminant Analysis and from MANOVA (Multivariate Analysis of Variance) to MANCOVA (Multivariate Analysis of Covariance). In a true multivariate setting, where we have several response variables, the test of equality of canonical correlations appears as a much useful and desired tool. However, devising such a test has not been easy given the rather complicated structure of the joint distribution of the sample canonical correlations, moreover when, under the null hypothesis, one has to consider the case of equality of some of the population canonical correlations. But, by first obtaining the likelihood ratio test (l.r.t.) for a particular diagonal-block covariance structure where the diagonal blocks are compound symmetric (that is, with equal variances and equal covariances) it is then possible to convert this test into a l.r.t. for equality of canonical correlations. In this talk will be presented the derivation of the test and it will be shown how by adequately splitting the null hypothesis into a set of conditionally independent hypotheses we can easily obtain the corresponding l.r.t. statistic. Also, from this split of the null hypothesis, near-exact distributions will be derived, which, given the non-manageable structure of the exact distribution in the general case, are a much useful tool from which near-exact quantiles and p-values may be obtained. A measure of proximity is used to evaluate the proximity of the near-exact distributions obtained to the exact distribution. The results show the extreme proximity of the exact and the near-exact distributions obtained. Also, for the particular case of the test of equality of only two canonical correlations the exact distribution of the l.r.t. statistic is obtained in a closed finite form from which we can easily compute exact quantiles and p-values.

Invited Speech 4: Asymptotics of Distribution Estimation In Linear Autoregressive Models

Speaker: Prof. Fuxia Cheng, Illinois State University, USA
Time: 16:20-17:00, Sunday Afternoon, September 16, 2018
Location: HAINA (海纳), 9th Floor, Chongqing Yangtze Island Hotel

Abstract

For the linear autoregressive stationary time series model, I consider estimation of the error distribution, including error variance, density and cumulative distribution functions. The asymptotic distribution of the error variance estimator is shown to be normal. And we also obtain the strong consistency of the proposed error variance estimator For the distribution of the error density estimator, at a fixed point, is shown to be normal. Globally, the asymptotic distribution of the maximum of a suitably normalized deviation of the density estimator from the expectation of the kernel error density (based on the true error) is the same as in the case of the one sample set up, which is given in Bickel and Rosenblatt (1973).

Part III Technical Sessions

Engineering: Invited Speech Session & Technical Session

Session Chair: Prof. Jinzhang Liu, Beihang University, China
HAINA (海纳), 9th Floor 08:30-12:00, Sunday Morning, September 16, 2018

ID	Paper Title	Author	Affiliation
Invited 08:30-09:10	Supramolecular Electrochemical Cell of Lithium Ion Encapsulated Fullerene with Porphyrinoids	Prof. Kei OHKUBO	Osaka University
Invited 09:10-09:50	Increasing the Capacitance of Graphene-Based Supercapacitor Electrodes by Functionalization with Small Organic Molecules	Prof. Jinzhang Liu	Beihang University
Invited 09:50-10:30	SULFATE REMOVAL By PHYTOREMEDIATION	Prof. Hossein Ganjidoust	Tarbiat Modares University
10:30-10:50	**Coffee Break**		
Invited 10:50-11:30	THERMOELECTRIC PROPERTIES OF GRAPHITE INTERCALATED COMPOUNDS	Prof. N.D. Subasinghe	National Institute of Fundamental Studies
Oral 11:30-11:40	Asymmetric micro-supercapacitor based on manganese oxide and graphene	Na Wang	Beihang University
Oral 11:40-11:50	Induced co-deposition of NdFe-based thin film by pulse plating technique in 1-ethyl-3-methylimidizolium dicyanamide	Xuan Xu	Jozef Stefan Institute
Oral 11:50-12:00	Effect of flow shear stress on the power performance of microbial fuel cells without buffer solution	Chin-Tsan Wang	National I Lan University
Oral 12:00-12:10	Chanllenges and Methods to Improve Well Cementing Quality for 177.8mm Liner in Gaoshiti-Moxi Area	Bin Li	Engineering Technology Research Institute of SouthWest Oil And Gas Field Company

Oral 12:10-12:20	Experimental Study on the Radiative Properties of Fly Ash in the Radiant Syngas Cooler of Gasifier	Zhifei Fu	Tsinghua University

Mathematics: Invited Speech Session & Technical Session

Session Chair: Prof. Wanyang Dai, Nanjing University, China
HAINA (海纳), 9th Floor 14:00-18:00, Sunday Afternoon, September 16, 2018

ID	Paper Title	Author	Affiliation
Invited 14:00-14:40	Statistical design and analysis of response adaptive clinical trials	Prof. Xikui Wang	University of Manitoba
Invited 14:40-15:20	Stochastic Game with Big Data within Cloud-Computing and Blockchain	Prof. Wanyang Dai	Nanjing University
Invited 15:20-16:00	A likelihood ratio test for the equality of canonical correlations	Prof. Carlos Manuel Agra Coelho	Universidade Nova de Lisboa
16:00-16:20	**Coffee Break**		
Invited 16:20-17:00	Asymptotics of Distribution Estimation In Linear Autoregressive Models	Dr. Fuxia Cheng	Illinois State University
Oral 17:00-17:10	An o(n2.5) algorithm for maximum matchings in general graphs	Yingtai Xie	College of Information Science and Technology of Chengdu University
Oral 17:10-17:20	Rigorous Proof of Goldbach's Conjecture	Zengyong Liang	Maternal and Child Health Hospital of Guangxi
Oral 17:20-17:30	Research on the Maximum Volume of Inscribed Elliptical Cone inside a Cylinder	Yusi Niu	The High School Affiliated to Renmin University
Oral 17:30-17:40	Modelling financial event data by Hawkes process models	Yuzhi Cai	Swansea University

Part IV Abstracts

Engineering : Technical Session

ID: CEES2018_10007
Title: Asymmetric micro-supercapacitor based on manganese oxide and graphene
Name: Na Wang
Affiliation: Beihang University
Email: wn1993@buaa.edu.cn

Abstract:
In-plane asymmetric micro supercapacitors using nitrogen-doped graphene (NG) film as negative electrode and MnO2 nanostructures as positive electrode are fabricated onto a plastic substrate coated with Ni/Cu film. A laser-scribing machine is employed to make interdigital finger electrodes in the plastic substrate coated with NG film via a slurry coating process. MnO2 nanosheets are electrochemically deposited onto pre-coated NG film. In LiCl-based gelled electrolyte, the NG//MnO2 cell exhibits excellent electrochemical performance and a broad voltage window up to 2.0 V. The maximum specific capacitance of a single cell is measured to be 14 mF cm-2. In addition, several cells in series can be easily fabricated by combining the laser-scribing technique and the electrodeposition of MnO2 electrodes. As a proof of concept, four cells in a compact configuration and with high voltage output up to 8 V are demonstrated.

ID: CEES2018_10010
Title: Induced co-deposition of NdFe-based thin film by pulse plating technique in 1-ethyl-3-methylimidizolium dicyanamide
Name: Xuan Xu
Affiliation: Jozef Stefan Institute
Email: xuan.xu@ijs.si

Abstract:
Electrodeposition of Nd metal and its alloys has attracted a lot of attention due to the low production cost of these high energy materials. There have been some recent studies on Nd & Fe electrodeposition from ionic liquids. However, whether the deposited Nd in a valence state of Nd(II) or Nd(0) is questionable since large amount of oxygen presented in the deposits. Furthermore, the co-deposition mechanism of Nd & Fe plating which is a critical fundamental scientific foundation is not clear and not been reported yet. Here, we studied the valence state of electrochemically reduced Nd from 1-ethyl-3-methylimidizolium dicyanamide ([EMIM][DCA]) ionic liquid (IL) at 110 ˚C. We found that Nd(III) cannot be reduced independently while it can be co-deposited inductively with the addition of Fe(II) on a Cu substrate. We indirectly prove that Nd(III) is reduced to Nd(0) during electrodeposition by transmission electron microscope (TEM) and electron energy loss spectroscope (EELS) analysis, together with HSC Chemistry 6 software calculation. According to this understanding, we propose an induced co-deposition mechanism of Nd(III) & Fe(II) based on the transition state theory, in which the newly reduced Fe is in an activated state (Fe*) which catalyzes the reduction of Nd(III) to Nd(0). The mathematic model was built and simulated with experimental data accordingly which supports the proposed mechanism.

ID: CRE2018_10002

Title: Effect of flow shear stress on the power performance of microbial fuel cells without buffer solution

Name: Chin-Tsan Wang
Affiliation: National I Lan University
Email: ctwang@niu.edu.tw

Abstract:
As known that organic material of wastewater can be converted into a type of power energy with a generation of pure water under the bio-chemical process of microbial fuel cells (MFCs). Here, concerning the high cost issue of buffer solution required in most of microbial fuel cells and very hard to application of wastewater treatment in the future, this study will try to use the technique of flow shear stress for replacing the role of buffer solution in MFCs. The performance including power, COD removal and pH variation will be investigated under a series of cases. General speaking, a higher revolution per minute (rpm) applied a bigger shear tress could be obtained. Results show that the performance of MFCs without buffer solution operated at cases of different rpm will be better than cases of without rpm (like a stagnation solution). A better power and COD removal performance and stable pH level were found in MFCs without buffer solution when operational flow speed at 480 rmp. These findings would be useful to the design of MFCs for the application of wastewater treatment in the future.

ID: PECER2018_10001

Title: Chanllenges and Methods to Improve Well Cementing Quality for 177.8mm Liner in Gaoshiti-Moxi Area

Name: Bin Li
Affiliation: Engineering Technology Research Institute of SouthWest Oil And Gas Field Company
Email: libin2015@petrochina.com.cn

Abstract:
Gaoshiti-Moxi structure belt of An-Yue Sinian gas reservoir, which was China's largest monomer Marine carbonate gas reservoir up to now, located in vying-dragon female temple structure group that belong to the ancient uplift slope of the middle of Sichuan. With the exploration and development of high temperature and high pressure carbonate reservoir, a large number of challenges and problems, such as long isolation section, active oil-gas show, large temperature difference, prone to super retarding cement slurry and gas channeling at flare position, have been encountered in the cementing of 177.8mm hang-liner. In order to solve these problems, numerous measures and methods have been put into use for reducing the safety risk of cementing and improving cementing quality. The large temperature difference channeling cement slurry system, effective anti-pollution spacer and high-pressure packer type liner hanger were developed and applied for field tests in the early stage of development. In addition, equilibrium pressure cementing technology, optimizing of centralizer placement and plasma column structure, improvement of pump displacement and hold pressure while waiting on cement were used to ensure nice displacement efficiency and cementing quality. As Moxi X well for example, the cementing quality factor of merit was 40.29% and the qualification rate was up to 78.87% after adopting the cementing measures and methods above. The cementing quality was much higher than previous level and provided technical support for Gaoshiti-Moxi area.

ID: PECER2018_10005

Title: Experimental Study on the Radiative Properties of Fly Ash in the Radiant Syngas Cooler of Gasifier

Name: Zhifei Fu
Affiliation: Tsinghua University
Email: 623141186@qq.com

Abstract:
Radiant syngas cooler (RSC) is the key heat recovery equipment in coal gasification system. The syngas from gasifier carries large amount of slags in which the

mass fraction of fly ash less than 100 μm is about 20%. Studying the optical properties of fly ash has high significance for the optimization of heat transfer calculation in RSC. A new experimental method was proposed to inversely calculate the radiative parameters of particles—"KBr transmittance-reflectance method". By measuring the "directional-hemispherical" reflectance and transmittance of fly ash particles by FTIR under the wavelength range of 0.55~1.65μm, using the four-flux model to solve the radiative transfer equation and combing with Mie theory, the absorption and scattering efficiency of 22.7 μm fly ash and optical constant (also known as complex refractive index, m=n+ik) of fly ash were inversely calculated. The results indicated that for fly ash with large size parameter, there was no obvious change of the absorption and scattering efficiency when the mass fraction of Fe2O3 was between 5.65% and 16.53%, which was well explained by Mie theory; The obtained optical constant was close to the results of KBr transmittance method.

Mathematics : Technical Session

ID: CGT2018_10004
Title: An o(n2.5) algorithm for maximum matchings in general graphs
Name: Yingtai Xie
Affiliation: College of Information Science and Technology of Chengdu University
Email: xyingtai@189.cn

Abstract:
This article extend the John E.Hopcroft and Richart M.Karp Algorithm(HK Algorithm) for maximum matchings in bipartite graphs to the non-bipartite case by providing a new approach to deal with the blossom in alternating paths in the process of searching for augmenting paths, which different from well-known "shrinking" way of Edmonds and makes the algorithm for maximum matchings in general graphs more simple.

ID: DMCM2018_10004
Title: Rigorous Proof of Goldbach's Conjecture
Name: Zengyong Liang
Affiliation: Maternal and Child Health Hospital of Guangxi
Email: lzy2ok@126.com

Abstract:
In this article , we use set ,function and number theory to study the prime and composite numbers , prove that the lower limit formula of the number of prime numbers derived from the Euler's function , and find the lower limit formula of the number of prime integer-pairs . Finally , we use mathematical induction to prove that Goldbach's conjecture is correct .

ID: SMMA2018_10006
Title: Research on the Maximum Volume of Inscribed Elliptical Cone inside a Cylinder
Name: Yusi Niu
Affiliation: The High School Affiliated to Renmin University
Email: niuyusi@126.com

Abstract:
The volume of a cone is one third of the volume of a cylinder if they share same base and equal height. Let's propose a hypothesis, if we expand the research area from cones to elliptical cones, could the maximum ratio of volume beyond one third? This paper tries to pull away the veils of it. Firstly, we present four types of inscribed elliptical cones inside cylinders, and consequently all the other inscribed elliptical cones can be classified to these four types. Secondly, for each type of them, this paper discusses the corresponding volume ratio of the inscribed elliptical cone to the cylinder. It is

concluded that the largest ratio of the volume of an inscribed cone to that of the cylinder is 1/3. Finally, two types whose ratio could reach 1/3 are given as examples.

ID: SMMA2018_10003

Title: Modelling financial event data by Hawkes process models

Name: Yuzhi Cai
Affiliation: Swansea University
Email: y.cai@swansea.ac.uk

Abstract:

We develop a novel econometric modelling framework for financial market event data. We achieve this by introducing a random noise term into the conditional intensity function of a Hawkes process model. The random noise term is used to measure the deviation of the observed intensity function from the unobservable theoretical intensity function. This framework allows us to address the effect of some random noise on the assessment of uncertainty in statistical inferences about the underlying processes in a systematic manner. Results of applications to market transaction data are presented. We find that the probability that a trade will take place is positively correlated with that a change in prices will occur. We also find that the interaction between trades and mid-quote price changes shortens the average waiting time of the trading process but lengthens the average waiting time of the mid-quote price change process.

Part V Instructions for Presentations

Oral Presentation

Devices Provided by the Conference Organizing Committee:

- Laptops (with MS-office & Adobe Reader)
- Projectors & Screen
- Laser Sticks

Materials Provided by the Presenters:

- PowerPoint or PDF files

Duration of each Presentation:

- Regular Oral Session: 10 Minutes of Presentation
- Plenary Speech: 30 Minutes of Presentation

Poster Presentation

Materials Provided by the Conference Organizing Committee:

- X Racks & Base Fabric Canvases (60cm×160cm, see the figure below)
- Adhesive Tapes or Clamps

Materials Provided by the Presenters:

- Home-made Posters

Requirement for the Posters:

- Material: not limited, can be posted on the Canvases
- Size: smaller than 60cm×160cm
- Content: for demonstration of the presenter's paper

Requirement for the Presenters:

Stand beside his (her) Poster through the Session, and discuss with the readers about his (her) paper

Part VI Hotel Information

About Hotel

Chongqing Yangtze Island Hotel (重庆扬子岛酒店) is located in Chongqing's most prosperous commercial center landmark, next to the prosperous shopping district- Chongqing People's Liberation Monument. The geographical position is superior, and the transportation is convenient. The 32-storey Hotel, full glass curtain wall window, no dead angle of 360 degrees panoramic view, brilliantly illuminated, panoramic view of the bustling city. It has more than two hundred rooms. Different area, different facilities can meet the customer's business, travel, family, etc all kinds of recreation demand and thoughtful service will bring you constant comfortable warmth.

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Transportation:

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