Title： **Nonlinear implicit impulsive Volterra type random integral equations in Banach spaces**

Authors：Hengyou Lan, J.K. Kim and Y.J. Cho(Department of Mathematics, Sichuan University of Science & Engineering)

Sources: Dyn. Contin. Discrete Impuls. Syst. Ser. A Math. Anal., 2010, 17(3): 303–316 (SCI)

Abstract： In this paper, by using Banach fixed point theorem, we obtain existence, uniqueness and iterative approximation of solution for first-order nonlinear implicit impulsive Volterra type random integral equations in Banach spaces. The results presented in this paper improve and generalize some known corresponding results in the literature.

Keywords: Nonlinear implicit impulsive Volterra type random integral equation, Banach fixed point theorem, random solution, existence and uniqueness

Title： **Existence and uniqueness results for nonlinear first-order implicit impulsive integro-differential equations with monotone conditions**

Authors： Hengyou Lan

Sources： Dyn. Contin. Discrete Impuls. Syst. Ser. A Math. Anal., 2010, Vol. 17, pp. 19-30 (SCI)

Abstract： In this work we deal with a singular stochastic optimal control problem. We present a theoretical iterative method which converges to the analytical solution and we also present a discretization procedure to obtain an approximated solution. We establish the convergence of the discrete solution to the value function and give an example of application with the numerical results.

Keywords: singular controls, Hamilton-Jacobi-Bellman equation, viscosity solution, iterative constructive method, numerical solution

Title: **Perturbed iterative approximation of common fixed points on no-nlinear fuzzy and crisp mixed family operator equation couples in Menger PN-spaces**

Authors： Hengyou Lan, T.X. Lu, H.L. Zeng and X.H. Ren.

Sources： Proceeding of the Fifth International Conference on Rough Set and Knowledge Technolog, 2010, LNAI 6401, pp. 228—233 (EI)

Abstract： In this paper, based on the concept of probabilistic (φ,ψ)-contractor couple

introduced by Mihet, a new class of nonlinear operator equation couples with a mixed family of fuzzy and crisp operator equations in Menger probabilistic normed spaces (briefly, Menger PN-spaces) is introduced and studied. Further, some new iterative algorithms are constructed, and the existence of solutions for the nonlinear operator equation couples and the convergence of iterative sequences generated by the algorithms under a larger class of t-norms and joint orbitally complete conditions are discussed.

Keywords： Common fixed point-probabilistic (φ,ψ)-contractor-nonlinear fuzzy and crisp mixed family operator equation couple-joint orbitally complete condition - iterative algorithm and convergence

Title: **Stability in impulsive Cohen-Grossberg-Type BAM neural networks with distributed delays**

Author：Kelin Li, Liping Zhang, Xinhua Zhang, Zuoan Li.

Sources：Applied Mathematics and Computation，2010, Vol. 215, pp.3970–3984 (SCI)

Abstract: In this paper, a class of impulsive Cohen–Grossberg type bi-directional associative memory (BAM) neural networks with distributed delays is investigated. By establishing an integro-differential inequality with impulsive initial conditions and employing the homeomorphism theory, the M-matrix theory and inequality technique, some new general sufficient conditions ensuring the existence, uniqueness and global exponential stability of equilibrium point for impulsive Cohen–Grossberg-type BAM neural networks with distributed delays are obtained. In particular, the estimate of the exponential convergence rate is also provided, which depends on the system parameters and impulsive disturbed intension. An example is given to show the effectiveness of the results obtained here.

Keywords:Bi-directional associative memory; Cohen–Grossberg neural networks; Distributed delays; Impulses; Global exponential stability

Title： **Impulsive effect on global exponential stability of BAM fuzzy cellular neural networks with time-varying delays**

Authors：Kelin Li

Source: International Journal of system science, 2010, Vol. 41, pp. 131-142 (SCI)

Abstract： In this article, a class of impulsive bidirectional associative memory (BAM) fuzzy cellular neural networks (FCNNs) with time-varying delays is formulated and investigated. By employing delay differential inequality and M-matrix theory, some sufficient conditions ensuring the existence, uniqueness and global exponential stability of equilibrium point for impulsive BAM FCNNs with time-varying delays are obtained. In particular, a precise estimate of the exponential convergence rate is also provided, which depends on system parameters and impulsive perturbation intention. It is believed that these results are significant and useful for the design and applications of BAM FCNNs. An example is given to show the effectiveness of the results obtained here.

Keywords： bidirectional associative memory; fuzzy cellular neural networks; time-varying delays; global exponential stability; impulses

Title： **Stability in impulsive Cohen–Grossberg-type BAM neural networks with time-varying delays: A general analysis**

Author：Kelin Li, Huanglin Zeng

Sources： Mathematics and computers in simulation, 2010, Vol. 80, pp. 2329-2349 (SCI)

Abstract: In this paper, we investigate a class of impulsive Cohen-Grossberg-type BAM neural networks with time-varying delays. By establishing the delay differential inequality with impulsive initial conditions, and employing the homeomorphism theory, the M-matrix theory and the inequality $a\prod_{k=1}^{l} b_k^{q_k} \le 1/r\left(a^r + \sum_{k=1}^{l} q_k b_k^r\right)$ ($a \ge 0, b_k \ge 0, q_k \ge 0$ with $\sum_{k=1}^{l} q_k = r-1$), some new sufficient conditions ensuring the existence, uniqueness and global exponential stability of equilibrium point for impulsive Cohen-Grossberg-type BAM neural networks with time-varying delays are derived. In particular, the estimate of the exponential convergence rate which depends on the system parameters and the impulsive disturbance intension is also provided. An example is given to show the effectiveness of the results obtained here.

Keywords ： Bi-directional associative memory; Cohen–Grossberg neural networks; Time-varying delays; Impulses; Global exponential stability

Title：**Finite groups whose irreducible characters vanish on at most three conjugacy classes**

Author：Jinshan Zhang, J. T. Shi, Z. C. Shen

Sources： Journal of Group Theory, 2010, Vol. 13, pp. 799–819 (SCI)

Abstract: The aim of this note is to classify the finite groups whose irreducible characters vanish on at most three conjugacy classes in the character table.

Title: **On zeros of characters of finite groups**

Author：Jinshan. Zhang, Z.C.Shen, D.D.Liu.

Sources：Czechoslovak Mathematical Journal, 2010, Vol. 60, pp. 801-816 (SCI)

Abstract： For a finite group G and a non-linear irreducible complex character χ of G write $\upsilon(\chi)=\{g\in G\mid\chi(g)=0\}$. In this paper, we study the finite non-solvable groups G such that $\upsilon(\chi)$ consists of at most two conjugacy classes for all but one of the non-linear irreducible characters χ of G. In particular, we characterize a class of finite solvable groups which are closely related to the above-mentioned question and are called solvable φ-groups. As a corollary, we answer Research Problem 2 in [Y.Berkovich and L.Kazarin: Finite groups in which the zeros of every non-linear irreducible character are conjugate modulo its kernel. Houston J.Math. 24 (1998), 619-630.] posed by Y.Berkovich and L.Kazarin.

Keywords： finite groups, characters, zeros

Title: **Tail Behavior and Extremes of Short-Tailed Symmetric Distribution**

Author：Fuming Lin, Zuoxiang Peng

Sources：Communications in Statistics - Theory and Methods, 2010, Vol. 39, pp. 2811 – 2817 (SCI)

Abstract： Tiku and Vaughan (1999) introduced a short-tailed symmetric family recently. In the article, the tail properties of the short-tailed symmetric distribution are studied and the asymptotic distribution of the maximum of i.i.d. random variables obeying the short-tailed distribution is gained.

Keywords: Extreme value distribution; Short-tailed; Symmetric distributions; Tail properties

Title： **GI/Geom/1/N/MWV queue with changeover time and searching for the optimum service rate in working vacation period**

Authors：Miaomiao.Yu, Y.H.Tang, Y.H.Fu, L.Pen.

Sources： Journal of Computational and Applied Mathematics, In Press (SCI)

Abstract：In this paper, we consider a finite buffer size discrete-time multiple working vacation queue with changeover time. Employing the supplementary variable and embedded Markov chain techniques, we derive the steady state system length distributions at different time epochs. Based on the various system length distributions, the blocking probability, probability mass function of sojourn time and other performance measures along with some numerical examples have been discussed. Then, we use the parabolic method to search the optimum value of the service rate in working vacation period under a given cost structure.

Keywords：Working vacation; Discrete-time queue; Finite buffer; Parabolic method; Optimum value

Title： **Two-step relaxation Newton algorithm for solving nonlinear algebraic equations**

Authors: Shu-Lin Wu, Peng Hu, Chengming Huang.

Sources: Journal of Applied Mathematics and Computing, 2010, Vol. 33, pp. 459-470 (EI)

Abstract： We introduce a new algorithm, namely two-step relaxation Newton, for solving algebraic nonlinear equations f(x)=0. This new algorithm is derived by combining two different relaxation Newton algorithms introduced by Wu et al. (Appl. Math. Comput. 201:553–560, 2008), and therefore with special choice of the so called splitting function it can be implemented simultaneously, stably with much less memory storage and CPU time compared with the Newton–Raphson method. Global convergence of this algorithm is established and numerical experiments show that this new algorithm is feasible and effective, and outperforms the original relaxation Newton algorithm and the Newton–Raphson method in the sense of iteration number and CPU time.

Keywords： Nonlinear equations; RelaxationNewtonalgorithm; ewton–Raphson method; Two-step relaxation Newton algorithm; Parallel Compu-tation; Global convergence

Title： **Compact differences of weighted composition operators from weighted Bergman spaces to weighted-type spaces**

Author：Zhijie Jiang, Stevo Stević

Sources： Applied Mathematics and Computation, 2010, Vol.217, pp. 3522-3530 (SCI)

Abstract: We characterize the compactness of differences of weighted composition operators

from the weighted Bergman space A^p_α, 0<p<∞, α>−1, to the wefv ighted-type space H^∞_v of analytic functions on the open unit disk $\mathbb{D}$ in terms of inducing symbols $\varphi_1,\ \varphi_2 : \mathbb{D} \to \mathbb{D}$ and $u_1,\ u_2 : \mathbb{D} \to \mathbb{C}$. For the case 1<p<∞ we find an asymptotically equivalent expression to the essential norm of these operators.

Keywords: Weighted composition operator; Weighted Bergman space; Weighted-type space; Compact operator

Title: **Existence and Exponential Stability of Periodic Solution for Cohen-Grossberg Neural Networks with Hybrid Delays**

Authors：Xinhua Zhang, Zuoan Li, Ke-Lin Li

Sources： 2010 Sixth International Conference on Natural Computation, ICNC 2010 Vol. 3, pp. 1093-1097 (EI)

Abstract：In this paper, a generalized model of Cohen-Grossberg neural networks with periodic coefficients and hybrid delays is investigated. By employing integro-differential inequality and M-matrix theory, some sufficient conditions ensuring the existence and global exponential stability of the periodic oscillatory solution for Cohen-Grossberg neural networks with hybrid delays are obtained. An examples is given to show the effectiveness of the obtained results.

Keywords： Periodic oscillatory solution, Cohen-Grossberg neural networks, exponential stability, hybrid delays

Title: **Delay-dependent exponential stability for impulsive Chen-Gros-sberg neural networks with time-varying delays and reaction-diffusion terms**

Author：Xinhua Zhang, Shu-Lin Wu, Kelin Li

Sources： Commun Nonlinear Sci Numer Simulat., 2011, Vol. 16 , pp. 1524–1532 (SCI)

Abstract： In this paper, a class of impulsive Cohen–Grossberg neural networks with time-varying delays and reaction–diffusion is formulated and investigated. By employing delay differential inequality and the linear matrix inequality (LMI) optimization approach, some sufficient conditions ensuring global exponential stability of equilibrium point for impulsive Cohen–Grossberg neural networks with time-varying delays and diffusion are obtained. In particular, the estimate of the exponential convergence rate is also provided, which depends on system parameters, diffusion effect and impulsive disturbed intention. It is believed that

these results are significant and useful for the design and applications of Cohen–Grossberg neural networks. An example is given to show the effectiveness of the results obtained here.

Keywords： Cohen–Grossberg neural networks, Reaction–diffusion, Impulses Delays, Global exponential stability, Linear matrix inequality

Title： **Stability analysis of impulsive stochastic fuzzy cellular neural networks with time-varying delays and reaction-diffusion term**

Author：Xinhua Zhang, Kelin Li

Sources： International Journal of Mathematical and Computer Sciences, 2010, Vol. 6, pp. 119-126 (EI)

Abstract： In this paper, the problem of stability analysis for a class of impulsive stochastic fuzzy neural networks with timevaryingdelays and reaction-diffusion is considered. By utilizing suitable Lyapunov-Krasovskii funcational, the inequality technique and stochastic analysis technique, some sufficient conditions ensuring global exponential stability of equilibrium point for impulsive stochastic fuzzy cellular neural networks with time-varying delays and diffusion are obtained. In particular, the estimate of the exponential convergence rate is also provided, which depends on system parameters, diffusion effect and impulsive disturbed intention. It is believed that these results are significant and useful for the design and applications of fuzzy neural networks. An example is given to show the effectiveness of the obtained results.

Keywords： Exponential stability; stochastic fuzzy cellular neural networks; time-varying delays; impulses; reaction-diffusion terms.

Title： **Stability Analysis of Impulsive BAM Fuzzy Cellular Neural Networks with Distributed Delays and Reaction-diffusion Terms**

Author：Xinhua Zhang, Kelin Li

Sources： International Journal of Mathematical and Computer Sciences, 2010, Vol. 4, pp. 112-122 (EI)

Abstract： In this paper, a class of impulsive BAM fuzzy cellular neural networks with distributed delays and reaction-diffusion terms is formulated and investigated. By employing the delay differential inequality and inequality technique developed by Xu et al., some sufficient

conditions ensuring the existence, uniqueness and global exponential stability of equilibrium point for impulsive BAM fuzzy cellular neural networks with distributed delays and reaction-diffusion terms are obtained. In particular, the estimate of the exponential convergence rate is also provided, which depends on system parameters, diffusion effect and impulsive disturbed intention. It is believed that these results are significant and useful for the design and applications of BAM fuzzy cellular neural networks. An example is given to show the effectiveness of the results obtained here.

Keywords： Bi-directional associative memory; fuzzy cellular neural networks; reaction-diffusion; delays; impulses; global exponential stability.

Title： **Analysis on Polyurethane Flame Retardant Migration Based on Temperature**

Authors：Bangrong Wang, Huanglin Zeng, Peng Zhang, Xuerong Tao

Sources：ICCASM 2010：The 2010 Internationgal Conference on Computer Application and System Modeling (EI)

Abstract：This paper is devoted to some studies on polyurethane flame retardant migration with temperature changes. According to characteristics of polyurethane flame retardant, a new method of data preprocessing is proposed based on Chauvenet criteria. A mathematical model is set up for analysis on polyurethane flame retardant migration with the ambient temperature and the roasting time changes. Regression analysis is taken advantage of linear transform to realize nonlinear regression by way of variable substitution. A nonlinear dynamic behavior of polyurethane flame retardant migration with temperature change is analyzed. The experiment results show that the mathematical model proposed is good fit with the behavior of polyurethane flame retardant migration on environmental temperatures and baking time changes

Keywords： polyurethane foam; flame retardant; Chauvenet criteria; regression analysis

Title: **Global exponential stability of impulsive BAM fuzzy cellular neural networks with time delays in the leakage terms**

Authors：L.P.Zhang, Ke-Lin Lin

Sources：International Journal of mathematical and computer sciences, 2010, Vol. 6, pp.1-8 (EI)

Abstract: In this paper, a class of impulsive BAM fuzzy cellular

neural networks with time delays in the leakage terms is formulated and investigated. By establishing a delay differential inequality and M-matrix theory, some sufficient conditions ensuring the existence, uniqueness and global exponential stability of equilibrium point for impulsive BAM fuzzy cellular neural networks with time delays in the leakage terms are obtained. In particular, a precise estimate of the exponential convergence rate is also provided, which depends on system parameters and impulsive perturbation intention. It is believed that these results are significant and useful for the design and applications of BAM fuzzy cellular neural networks. An example is given to show the effectiveness of the results obtained here.

Keywords： global exponential stability; Bidirectional associative memory; fuzzy cellular neural networks; leakage delays; impulses

Title：**Periodicity of Cohen-Grossberg-type fuzzy neural networks with time-varying delays and impulses**

Author：J.M.Liang, Xinhua Zhang

Sources： 2010 The 3rd International Conference on Information Sciences and Interaction Sciences, 2010, Vol. ICIS 2010，pp. 357-362 (EI)

Abstract： In this paper, a class of Cohen-Grossberg-type fuzzy neural networks with time-varying delays and impulses is investigated. By employing differential inequality and M-matrix theory, some sufficient conditions ensuring the existence and global exponential stability of the periodic oscillatory solution for Cohen-Grossberg-type fuzzy neural networks with time-varying delays and impulses are obtained. An examples is given to show the effectiveness of the obtained results.

Title： **An Improved Algorithm of FP-tree Growth Based on Mapping**

Authors： Huanglin Zheng, Bangrong Wang(Sichuan University of Science & Engineering)

Sources： ICCASM 2010：The 2010 Internationgal Conference on Computer Application and System Modeling (EI)

Title： **Reliable guaranteed cost control for uncertain fuzzy neutral systems**

Authors: Jun Yang, W.P.Luo, G.H.Li, Shouming Zhong

Sources： Nonlinear Analysis: Hybrid Systems, 2010, Volume 4, 2010, pp. 644-658(EI)

Abstract： This paper focuses on the problem of robust reliable guaranteed cost control for a class of uncertain Takagi–Sugeno fuzzy neutral systems with linear fractional parametric uncertainties. The aim is to design a state feedback controller such that, for all admissible uncertainties as well as actuator failures occurring among the respecified subset of actuators, the plant remains asymptotically stable and guarantees an adequate level of a quadratic cost index. Based on the Lyapunov–Krasovskii functional, the Barbalat lemma, the descriptor system approach and the free weighting matrix method, new delay-dependent sufficient conditions for solvability of this problem are presented in terms of LMIs. Based on that, the design problem of the optimal reliable guaranteed cost controller is formulated as a convex optimization problem. Finally, a simulation example is provided to demonstrate the effectiveness of the proposed method.

Keywords： T–S fuzzy neutral systems; Reliable guaranteed cost control; Uncertain systems; Lyapunov–Krasovskii functional (LKF); Linear matrix inequalities (LMIs)

Title： **Delay-dependent stabilization for stochastic delayed fuzzy systems with impulsive effects**

Authors: Jun Yang, Shouming Zhong, Wenpin Luo and Guihua Li

Sources： International Journal of Control, Automation, and Systems， 2010， Vol. 8, pp. 127-134(SCI)

Abstract： This paper investigates the problem of stabilization for a class of stochastic delayed Takagi-Sugeno (T-S) fuzzy systems with impulsive effects. The time delay is assumed to appear both in the state and control input. The purpose is design of a state-feedback fuzzy controller such that the resulting closed-loop system is exponentially stable in the mean square. By means of Lyapunov-Krasovskii functional, the relaxed LMI approach and mathematical analysis technique, delaydependent sufficient conditions for solvability of this problem are obtained in terms of linear matrix inequalities (LMIs). Finally, a simulation example is given to demonstrate effectiveness and applicability of the theoretical results.

Keywords： Delayed systems; impulsive systems; Linear matrix inequalities (LMIs); Lyapunov Krasovskii functional; stochastic systems ; Takagi-Sugeno (T-S) fuzzy systems

Title： H^{∞} **Control of Fuzzy Neutral Systems under Sampled-data Control**

Authors: Jun Yang, Wen Pin Luo, Gui Hua Li

Sources： Advanced Materials Research , Vol. 108-111, pp. 482-487(EI)

Abstract：This paper is concerned with the H∞ sampled-data control for a class of fuzzy neutral systems. Employing Lyapunov-Krasovskii functional, the input delay approach, the descriptor system method, Barbalat lemma and the LMI approach, a design method of sampled-data state feedback controller for the fuzzy neutral systems is proposed.

Keywords：Linear Matrix Inequality (LMI), Sampled-Data Control, T-S Fuzzy Neutral System

Title： **Multiple regression model of optimal experimental design for organic composite modification of TiO2 powde**

Authors： Y. S. Cui , Hengyou Lan

Sources： Proceeding of the 2010 Seventh International Conference on Fuzzy Systems and Knowledge Discovery, 2010, Vol. 4, pp. 1710-1714 (EI)

Abstract：By using orthogonal experiment design and the software Statistics Package for Social Science (in short, SPSS), in this paper, the effect of all the factors (dosage, concentration, time, mix ration of modification agent and temperature) is studied on the sedimentation volume of TiO2 powder, and the experiment data is processed through direct observation and analysis of variance. Moreover, based on enter method in SPSS, multiple quadratic response surface regression model of evaluating indicators sedimentation volume against individual factors and some possible interactions is obtained and the optimal conditions for the organic composite modification of TiO2 powder with sodium stearate and sorbitol are given. The experiment results presented in this paper show that multiple regression method is better than direct observation and analysis of variance.

Title： **A System of Nonlinear Operator Equations for a Mixed Family of Fuzzy and Crisp Operators in Probabilistic Normed Spaces**

Author： Y.J. Cho, Hengyou Lan， N.J. Huang.

Sources： J. Inequal. Appl., 2010, Art. ID 152978, 16 pages (SCI)

Abstract： By using a random version of the theory of contractor introduced by Altman, we introduce and study a system of nonlinear operator equations for a mixed family of fuzzy and crisp operators in probabilistic normed spaces. We construct some new iterative algorithms for solving this kind of nonlinear operator equations. We also

prove some new existence theorems of solutions of a new system of nonlinear operator equations for a mixed family of fuzzy and crisp operators and some new convergence results of sequences generated by iterative algorithms under joint orbitally complete conditions.

Title： **Convergence Rate of Extremes For The general Error Distribution**

Author：Zuoxiang Peng, Saralees Nadarajah，Fuming Lin

Sources：Journal of Applied Probability, 2010,Vol. 47, pp. 668-679. (SCI)

Abstract： Let {Xn, n ≥ 1} be an independent, identically distributed random sequence with each Xn having the general error distribution. In this paper we derive the exact uniform convergence rate of the distribution of the maximum to its extreme value limit.

Keywords: Extreme value distribution; general error distribution; maximum; uniform convergence rate

Title： **Products of differentiation andcomposition from weighted bergman spaces to some spaces of analytic functions on the upper half-plane**

Authors：Yong Yang, Zhijie Jiang

Sources：International Journal of Mathematical Analysis， 2010,Vol. 4, pp. 1085-1094

Abstract： Let Π = {z ∈ C : Imz > 0} be the upper half-plane in the complex plane. This paper characterizes the bounded products of differentiation operator and composition operator acting from the weighted Bergman space Apα(Π) to the weighted-type space A∞(Π) and the Bloch-type space B∞(Π).

Keywords: Composition operator, differentiation operator, weighted Bergman space, weighted-type space, Bloch-type space

Title： **NEW CRITERIA FOR p-NILPOTENCE OF FINITE GROUPS**

Authors：Shitian Liu

Sources：International Electronic Journal of Algebra， 2010,Vol. 7, pp. 120-127

Abstract： A subgroup H is X-g pronormal in G if, for H, $X \le G$ and $g \in G$, $H \cap X$ and $H^g \cap X$ are conjugate in J = $\langle H \cap X, H^g \cap X \rangle$. In this paper, we

investigate the structure of a finite group G under the assumption that certain subgroups are X-g pronormal, where X = F(G) is the Fitting subgroup of G.

Keywords: F(G)-g pronormal subgroups, Sylow p-subgroup, maximal subgroups, p-nilpotence.

Title： **On injectors of finite groups**

Authors：Shitian Liu　Runshi Zhang

Sources： Armenian Journal of Mathematics， 2010,Vol. 3, pp. 14-21

Abstract： If $\mathscr{F}$ is a non-empty Fitting class, $\pi=\pi(\mathscr{F})$ and G a group such that every chief factor of $G/G_{\mathscr{F}}$ is an C_{π}^{s}-group. Then G has at least one $\mathscr{F}$-injector. This result is used to resolve an open problem and generalize some known results.

Keywords: Fitting class, Soluble, Chief factor, F-injector.

Title： **Weakly compact composition operators on Hardy spaces of the upper half-plane**

Authors：Hongbin Bai　Zhijie Zhang　Feng Zhou

Sources：International Journal of Mathematical Analysis，2010，Vol. 4， pp. 1851-1856

Abstract： Let Π+ = {z ∈ C : Im z > 0} be the upper half-plane. In the complex plane. In this paper we obtain the necessary condition for the weak compactness of composition operator on H1(Π+), and we also take an example to show that it is not sufficient.

Keywords: Upper half-plane, Hardy space, composition operator, weak compactness

Title： **Products of differentiation and composition from Hardy spaces to Zygmund-type spaces of analytic functions on the upper half-plan**

Authors：Zhijie Jiang

Sources： Global Journal of Pure and Applied Mathematics, 2010, Vol. 6

Title： **Carleson measures and composition operators on Bergman-Orlicz spaces of the unit ball1**

Authors：Zhijie Jiang

Sources： Int. Journal of Math. Analysis, 2010, Vol. 4

Abstract： Let B be the open unit ball in the n dimension Euclidean space Cn and dv be the normalized volume measure on B. For α > −1, define the weighted Lebesgue measure dvα by dvα(z) = cα(1 − |z|2)αdv(z), where cα = Γ(n + α + 1)/n!Γ(α + 1). Let Φ : [0,∞) → [0,∞) be a strictly increasing, convex function satisfying the global Δ2-condition with Φ(0) = 0, and Φ−1 differentiable. For such a function Φ, the Bergman-Orlicz space is define by

$$A_\alpha^\Phi = \left\{ f \in H(\mathrm{B}) : \| f \|_\Phi = \int_{\mathrm{B}} \Phi\left(\left| f(z) \right| \right) d_\alpha(z) < \infty \right\}$$

This paper characterizes Carleson measures on Bergman-Orlicz spaces, bounded andcompact composition operators on these spaces.

Keywords： Bergman-Orlicz space; composition operator; Carleson measure

Title： **On a class of operators from the Bergman tpye spaces to the little Bloch type spaces**

Authors：Zhijie Jiang

Sources： International J. of Math. Sci. & Engg. Appls., 2010, Vol. 4

Title： **Products of differentiation and composition from weighted Bergman spaces to Zygmund spaces on the upper half-plane**

Authors：Zhijie Jiang

Sources： Communications of the Korean Mathematical Society, 2010, Vol. 25

Title： **On nonlinear (A, η)-monotone operator inclusion systems with fuzzy mappings in Hilbert spaces**

Authors：Henyong Lan

Sources： Nonlinear Functional Analysis and Application， 2010，Vol. 2, pp. 29-42

Title： **Geom/G1,G2(Geom/G)/1/1可修Erlang消失系统的可靠性指标及其计算机仿真分析**

Author： 唐应辉，余玅妙，付永红

Sources： 系统工程理论与实践, 2010, Vol. 30, pp.347-355 (EI)

Title： **Relationship of eigenvalue between MPSD iterative matrix and Jacobi iterative matrix**

Authors： Z. D. Wang　　C. S. Yang　　Li Tan

Sources： Proceedings of Ninth International Conference on Machine Learning and Cybernetics， 2010, pp. 3150 - 3153

Abstract： Relationship of eigenvalue between MPSD iterative matrix and Jacobi iterative matrix for block p-cyclic case is obtained. The results in corresponding references are improved and perfected.

Title： **Finite groups with SS-quasinormal subgroups**

Authors：Guosong Chen　Zhencai Shen　Jinshan Zhang

Sources： International Journal of Algebra, 2010, Vol .4, pp. 1369 -1374

Abstract： A subgroup H of a group G is said to be SS-quasinormal (supplement-Sylow-quasinormal) in G if there is a supplement B of H to G such that H is permutable with every Sylow subgroup of B. In this paper we investigate the influence of SS-quasinormality of minimal subgroups or 2-minimal subgroups of finite group and extent the result of A. Carocca and some well-known results.

Keywords： SS-quasinormal subgroup, p-Supersolvable group

Title： **具有状态转换时间的GI/M/1/N工作休假排队模型及其最优低速服务率的数值计算**

Author：余砂妙　唐应辉　潘乐萌　付永红

Sources： 兰州大学学报(自然科学版), 2010, Vol. 46, pp.108-119 (中文核心)

Abstract： 考虑一个具有状态转换时间的 GI/M/1/N 有限缓冲工作休假排队系统.假设系统空竭后主服务员必须经过一段随机长度的状态转换时间才能进入休假期,并由备用服务员接替其工作,开始低速服务.应用嵌入 Markov 链方法和补充变量方法给出了计算任意时刻系统稳态队长分布的数值迭代公式,并在此基础上建立了系统单位时间运行成本函数.使用数值优化理论中的抛物线插值搜索方法,给出了系统的最优低速服务率,使得系统单位时间运行成本最小化.最后为展示搜索与数值迭代的全过程给出了一种特殊情形下的数值算例.

Keywords： 转换时间；嵌入Markov链；补充变量方法；队长；抛物线插值

Title： **具有位相型随机补货提前期的 PH 退化可修系统及其最优更换策略**

Author：唐应辉　余砂妙　付永红　唐小我

Sources： 系统科学与数学，2010, Vol.30,　pp. 1222-1235 (中文核心)

Abstract： 将几何过程与PH分布相结合，讨论一个带有位相型随机补货提前期的PH退化

可修系统. 通过建立最小生成元Q矩阵,获得了系统在稳态情形下的状态概率分布向量及其数值解. 根据上述研究结果同时也得到了系统的几个重要可靠性指标. 进一步地,还考虑了基于部件故障次数的订购策略和更换策略,导出系统单位时间平均运行成本的解析表达式并给出一个确定最优N策略的数值算例.

Keywords： 退化可修系统, 随机补货提前期, PH分布, 几何过程, 更换策略.

Title： **基于 TRIZ 和 Pro/Innovator 的汽封技术创新设计**

Authors：刘明　高媛媛　王向东

Sources： 液压与气动, 2010, Vol. 5, pp. 16-18(中文核心)

Abstract： 针对汽轮机汽封系统目前存在的问题,应用 TRIZ 理论和计算机辅助创新软件 Pro/Innovator 5.0,对其代表性问题的成因进行深入分析,提取问题中存在的技术矛盾和物理矛盾,找到了对应的创新原理,再结合对技术系统自身资源的挖掘利用,创新性地构思出利用蒸汽压力调整轴向浮动式可调汽封的概念性原理方案。

Keywords： 汽封; TR IZ; Pro / Innovator;创新设计.

Title： **基于 TRIZ 和 Pro/Innovator 改造刃具干磨工艺系统**

Authors：刘明　高媛媛　王向东

Sources： 工具技术，2010, Vol. 44, PP.62-65 (中文核心)

Abstract： 应用TRIZ理论和亿维讯研发的计算机辅助创新（CAI）软件Pro/Innovator5.0对问题进行分析和创新后,只需对刃具的干磨工艺系统进行简单改造,就可以有效降低磨削表面温度,减小磨削时的振动,解决磨削效率低和刃磨表面粗糙的问题,大幅提高工人操作的安全性和砂轮的耐用度。

Keywords： 刃具干磨 工艺系统 TRIZ Pro/Innovator

Title： **解析函数空间上的自伴加权复合算子**

Authors：江治杰

Sources： 纯粹数学与应用数学, 2010, Vol. 26 （中文核心）

Title： **CDLOTS 上连续自映射的周期点**

Authors：卢天秀　朱培勇

Sources： 四川师范大学学报（自科版）， 2010, Vol.33, pp. 598-600(中文核心)

Abstract: 设 f 是 CDLOTS(完备稠序线性序拓扑空间)上的连续自映射,下列二结论被证明:(1)

对任意 n∈N,f 有 n-周期点当且仅当 f 有 3-周期点;(2)若 f 的周期点集有限,则每个周期点的周期都是 2 方幂的.进而,推广了实直线上的相应结果.

Keywords: **CDLOTS 连续自映射 周期点**

Title： **拓扑空间上半连续函数的等价条件**

Authors：卢天秀　朱培勇

Sources： 西南师范大学学报（自科版）， 2010, Vol.35 (中文核心)

Title： **完备稠序线性序拓扑空间上的奇周期轨序关系**

Authors：卢天秀　朱培勇

Sources： 纯粹数学与应用数学， 2010, Vol.26 (中文核心)

Title： **水轮机转轮叶片流固耦合水力振动分析**

Authors：付磊　黄彦华　朱培模

Sources： 水利水电科技进展， 2010, Vol.30, pp. 24-26（中文核心）

Abstract: 基于有限体积法的有限元,采用非结构网格对控制方程离散,时间上采用二阶后退欧拉法,固体采用非线性弹性瞬态模拟,流体为不可压缩黏性流体,进行双向交错迭代耦合模拟计算。计算得知最大网格位移大约出现在叶片测试点 2 的位置,从整个曲线变化趋势可以看出,在 t=0.5s 时,叶片上网格位移最大,也就是说叶片摆幅较大,这样就会导致整个转轮偏心,进而引起整个水轮机的振动。

Keywords: 转轮叶片 水力振动 GCL 方法 κ-ε 湍流模型 流固耦合 水轮机 非线性弹性 黏性流体 测试点 有限体积法

Title： **Bergman 型空间到 Bers 型空间之加权复合算子**

Authors：江治杰

Sources： 数学学报, 2010, Vol. 53, pp. 67-74 （中文核心）

Abstract： 讨论了Bergman型空间H(p,μ)到Bers型空间H_β~∞、小Bers型空间H_(β,0)~∞上的加权复合算子,给出了加权复合算子有界性、紧性、弱紧性的充要条件,以及紧复合算子的角导数准则.本文还讨论了具有闭值域的加权复合算子,得到了一个充分条件.

Keywords： Bergman型空间 Bers型空间 加权复合算子 有界性 当且仅当 角导数 闭值域 弱紧性 紧算子 有界线性算子

Title： **Ostrowski 不等式的改进及其应用**

Authors：王帮容　闻道君

Sources： 数学的实践与认识， 2010, Vol.40, pp. 233-236（中文核心）

Abstract: 通过对 Ostrowski 不等式的改进,扩大了 Ostrowski 积分公式的适用范围,将该积分公式应用于数值积分推广了经典的中点积分公式、梯形积分公式和 Simpson 积分公式,同时得到相应的最佳误差限,并给出了具体的数值应用

Keywords: Ostrowski 不等式 最佳误差限 梯形积分 Simpson 积分

Title： **基于神经网络边缘提取的工业断层成像图像拟合**

Authors：曾理 何洪举 刘长江

Sources： 计算机集成制造系统， 2010，Vol. 16, pp. 24-29 (中文核心)

Abstract： 通过工业计算机断层成像图像边缘拟合,可获得矢量化的曲线,进而获得工件的计算机辅助设计图纸,实现基于工业断层成像的机械零部件逆向设计。在用两组细胞神经网络对图像进行分割的基础上,进行边缘跟踪和曲线的多维拟合。通过横截圆和轴线的拟合,实现对圆柱形目标的拟合。轴线拟合时,将各层圆心坐标分别投影到 xz 平面和 yz 平面进行最小二乘拟合,以降低计算复杂度。对发动机切片图像进行实验,根据拟合得到的参数得出了圆柱形目标的计算机辅助设计图,其拟合均方误差小于 0.3 像素 2。对不规则目标,讨论了基于最小二乘法的分段三次曲线拟合方法在边缘曲线拟合中的应用;对发动机切片图像目标区域进行实验的拟合均方误差均小于 0.6 像素 2。实验结果和误差分析证明,文中的拟合方法是有效的,实现了基于工业断层成像的逆向设计所必需的位图矢量化。

Keywords: 逆向工程 计算机断层成像 神经网络 图像处理 边缘拟合

Title： **基于 Wedgelet 的 CT 体数据线特征提取**

Authors：曾理 李宗剑 刘长江

Sources： 电子信息学报， 2010，Vol. 32, pp. 606-611 (中文核心)

Abstract： 面特征是描述工业 CT 体数据组成的重要成分之一。在工业 CT 体数据中，大部分的面特征不是以独立的形式存在，而是以不同灰度区域边缘面的形式存在。多尺度几何分析方法中的 3D-Wedgelet 恰好能有效刻画这种结构。该文先分析了单尺度下 Planelet 的形状和内在联系，得到一种快速 3D-Wedgelet 分解方法。以此为基础，提出两种提取工业 CT 体数据面特征的方法。(1)基于多尺度 3D-Wedgelet 分解提取工业 CT 体数据的面特征。(2)先将体数据在 3 个相互

垂直的方向上分别进行切片划分，再对每组切片序列进行基于多尺度 Wedgelet 分解的线特征提取，最后融合 3 个方向的线特征得到体数据的面特征。数字实验验证了该文方法可有效提取工业 CT 体数据的面特征。

Keywords: 面特征提取　3D-Wedgelet　工业 CT　体数据

Title：**基于粗集方法的机床热补偿误差的温度测点优化**

Authors：张海燕　曾黄麟，唐建芳

Sources：机床与液压， 2010，Vol. 38, pp. 39-41 (中文核心)

Abstract：机床热误差是影响机床加工精度稳定性的最大误差源，因此减小热误差对提高机床的加工精度至关重要。采用粗集理论对机床热变形建模及补偿技术中温度测点的选择进行优化，以 HMC800A 立式三轴加工中心温度测点的选择为例进行研究，结果表明该方法能有效地减少温度测点数量，既可以保证模型的精度，又可节省工作量。

Keywords: 数控机床 测点优化 热误差补偿 粗集理论

Title：**脉冲时滞 Cohen-Grossberg 神经网络的全局指数稳定性**

Authors：罗文品　杨军

Sources：内江师范学院学报， 2010，Vol.25

Title：**广义 Frattini 子群的推广**

Authors：王英

Sources：四川理工学院学报自然科学版， 2010，Vol.4

Title：**约化群对约化型齐次空间的真作用**

Authors：王瑜 李天增

Sources：周口师范学院学报， 2010，Vol.27

Title：**幂级数的求和方法**

Authors：杜道渊

Sources：价值工程， 2010，Vol.9

Title：**大学数学中不等式的证明方法探讨**

Authors：杜道渊

Sources： 中国科教创新导刊， 2010，Vol.32

Title： **汽车检查维护优化模型**
Authors：王光清
Sources： 四川理工学院校报（自科版）， 2010，Vol.23，pp. 637-638

Title： **二元函数最值一个值得注意的问题**
Authors：李放
Sources： 中国科技财富, 2010, Vol. 12

Title： **一类 gene-for-gene 共进化模型**
Authors：蒋莹莹
Sources： 内江师范学院学报, 2010, Vol. 25

Title： **一类特殊矩阵的对角化**
Authors：李天增　王瑜
Sources： 宜宾学院学报， 2010，Vol. 10

Title： **基于工程优化问题的广义变分不等式模型研究**
Authors：兰恒友　唐建芳, 张丹
Sources： 四川理工学院学报(自然科学版)， 2010，Vol. 23, pp. 135-159

Title： **极小子群个数为 3,4 的有限群**
Authors：黄彦华
Sources： 内江师范学院学报， 2010, Vol.25

Title： **三对角阵的一些性质**
Authors：黄彦华
Sources： 廊坊师范学院学报（自然科学版）， 2010, Vol.10

Title： **构建数学软件课程体系深化大学数学教学改革**
Authors：柏宏斌　江治杰　刘自山
Sources： 教学改革发展， 2010，Vol. 12

Title： **基于 LIBSVM 的葡萄酒品质评判模型**
Authors：高媛媛　刘强国
Sources： 四川理工学院学报(自然科学版)， 2010，Vol. 5

Title： **基于网络链接模型算法的改进**
Authors：刘强国　高媛媛
Sources： 宜宾学院学报， 2010，Vol. 10

Title： **全球汽车保有量的线性阻滞预测**
Authors：余成恩　柏宏斌
Sources： 科技信息， 2010，Vol. 29

Title： **巧用对称性妙解二重积分**
Authors：余成恩
Sources： 科技信息， 2010，Vol. 33

Title： **Pitz 算法在薄板屈曲问题中的应用**
Authors：易春
Sources： 高等函授学报自然科学板， 2010，Vol. 5

Title： **含扩散项时滞模糊 Cohen-Grossberg 神经网络的指数稳定性**
Authors：周杰
Sources： 四川理工学院自然科学版， 2010，Vol.23， pp. 270-274

Title： **多元函数微分法在平面几何中的应用**
Authors：刘长江
Sources： 重庆科技学院学报， 2010，Vol. 12

Title： **有限域上插值多项式的快速构造**
Authors：叶俊 苏跃斌
Sources： 四川文理学院学报， 2010，Vol. 6

Title： **应用 PDF 方法构造两个代数曲面拼接**

Authors：李云东　张先君

Sources： 大理学院学报， 2010，Vol. 4， pp. 23-25

Title： **不同分子量阻燃剂迁移行为的数学模型**

Authors：王帮容　谭丽

Sources： 四川理工学院学报， 2010, Vol.23, pp. 524-526

Title： **极大子群指数为素数幂的有限群**

Authors：苏跃斌

Sources： 四川文理学院学报， 2010, Vol.20, pp. 19-20

Title： **Hilbert 空间中伪单调变分不等式的严格可行性**

Authors：刘小兰

Sources： 四川理工学院学报（自然科学版）, 2010, Vol. 23, pp. 144-146

Title： **微弱加性扰动对 ADC 影响的定量分析**

Authors：刘小兰, 周密

Sources： 四川理工学院学报（自然科学版）， 2010, Vol. 23， pp. 438-441

Title： **带启动-完全关闭时间的 Mx/G/1 排队系统等待时间研究**

Authors：雷国雨 刘小兰 刘强国

Sources： 西南科技大学学报（自然科学版）， 2010, Vol. 25, pp. 100-105