

TABLE OF CONTENTS

目 录

Research and Analysis of Campus Card Consumption Behavior
(校园一卡通消费行为的研究与分析)

H. ZHANG, Q. M. LIU.....575

Judgment Conditions and Proof of Set Sequence Compactness in Metric Space $C(R^n)$
(度量空间 $C(R^n)$ 中集合列紧性的判定条件及证明)

M. Z. ZHAO, B. Q. YAN.....589

Research on Forecasting Exchange Rate Based on ARIMA-GM Combined Model of Inverse Transform
(基于逆变换 ARIMA-GM 组合模型对汇率的预测研究)

T. HE, L. Q. JIN.....595

A New Smoothing Newton Method for Second-Order Cone Optimization Based on SOC Function
(二阶锥规划基于 SOC 函数的新光滑牛顿算法)

X. J. LIANG, Y. F. ZENG.....602

The Traffic Flow Threshold and Track Design of the Tidal Pile Intelligent Displacement System Based on Cloud Computing
(基于云计算的潮汐桩智能变位系统车流量阈值及轨道设计)

D. YUE, X. T. LI, J. H. MA, W. SU.....613

Equilibrium Control and Stochastic Suppression of a Class of Stochastic Financial Systems
(一类随机金融系统的平衡控制和随机抑制)

F. DENG, X. D. ZHANG.....621

Generalized Hermite Function Spectral-Collocation Method for KdV Equations
(Kortewego-de Vries 方程的 Hermite 函数谱配置方法)

B. B. LI, T. J. WANG.....631

A Line Search Exact Penalty Method for Nonlinear Semidefinite Programming
(非线性半定规划的一个线搜索精确罚方法)

J. Q. WU, J. L. LI.....638

Boundedness in the Higher-Dimensional Chemotaxis-Growth System with Indirect Attractant Production
(具有间接吸引信号产出的高维趋化增长系统解的有界性)

Q. Q. TANG, Q. XIN.....650

**Local Derivative Estimates for an Elliptic Equation on
Complete Riemannian Manifolds**

(完备黎曼流形上椭圆方程的局部梯度估计)

Z. J. WANG.....657

Vertex-Colors and Edge-Weights

(点染色和边赋权)

H. J. ZHANG.....664

**Optimal Dividend Problem for the Compound Poisson Model with
Investment Incomes and Debit Interest**

(复合泊松模型带投资和借贷的最优分红问题)

Z. J. YANG.....669

A Modified Nonlinear Conjugate Gradient Algorithm Using Secant Conditions

(基于拟牛顿方程一个改进的非线性共轭梯度算法)

J. LIANG, G. D. MA, Y. T. SHI, Z. M. LIN, W. T. ZOU, L. N. LI.....676

A New Algorithm for Classification of MPSK Signals

(一种新的 MPSK 信号识别算法)

T. T. LI, H. YUAN.....684

Kirchhoff Index in Subdivision and Total Graphs of Enhanced Hypercube

(增强超立方体剖分图和全图的基尔霍夫指标)

P. XU.....691

**Bezier Curve with Two Shape Parameters and Its Application in the Splicing of
Different Axis Pipelines**

(带有两个形状参数的 Bezier 曲线及其在粗细不同轴线异面管道拼接中的应用)

F. WANG, G. Z. BAI.....697

Wiener Index of Transformation Graph G^{\sim}

(变换图 G^{\sim} 的 Wiener 指标)

Y. H. ZHAO.....703

**Optimal Proportion Reinsurance and Investment Strategy under
Constant Boundary Dividend Strategy**

(常数边界分红策略下最优比例再保险和投资策略)

M. M. GUO, H. S. SHU.....708

Computation of the Determinants of Special Matrices

(特殊矩阵行列式的计算)

Y. F. DING.....716

**Formation of Singularities for Quasilinear Hyperbolic Systems with
Characteristic with Constant Multiplicity**

(具常重特征的拟线性双曲组的经典解的奇性形成)

M. J. ZHANG, Y. M. XU.....731

Pseudo n -Width of Infinite Dimension Identity Operator

(无穷维恒等算子的伪宽度)

W. J. LU, H. Y. XIAO, J. QIN..... 747

A New Type of Non-Parameter Filled Function and Its Application in Least Squares

(一类新的无参数填充函数及其在最小二乘法中的应用)

Y. L. LI, S. G. WANG, Y. ZHANG, X. Y. XIE..... 753

An Improved Ant Colony Algorithm-Based Model for Blocking Criminals

(基于改进的蚁群算法的围堵罪犯模型)

H. ZHANG..... 762

The Fifth to Seventh Minimal Degree Distance of the Tree

(树的第五小至第七小度距离)

M. C. ZHUO, S. H. LIU, J. QIONG..... 771

Global Boundedness of Classical Solutions to a High-Dimensional Chemotaxis Model with Indirect Signal Production

(高维空间中具有间接信号产生生物趋化模型解的全局有界性)

D. D. ZHANG, Q. XIN, J. G. TANG..... 780

Multiple Positive Solutions of Discrete Sturm-Liouville-Like **P -Laplacian Boundary Value Problems**(具 P -Laplace 算子 Sturm-Liouville 型边值问题多个正解的存在性)

M. ZHANG, H. B. JIANG..... 790

Optimal Dividend Problem for the Risk Model with Surplus-Dependent Premiums

(保费依赖余额模型的最优分红问题)

X. LIU..... 798

Study on the Optimal Thickness of Protective Clothing Based on**Difference Equation Method**

(基于差分方程求解法对防护服最佳厚度问题的研究)

Q. DING, X. Y. LI..... 805

Oscillation Criteria for a Class of Second-Order Mixed Nonlinear Differential Equations

(一类二阶混合非线性微分方程的振动准则)

J. Y. LIN, T. J. CHEN..... 815

Research on the Replication of the Option of Random Walk Market and**Deducing Some Formulas**

(随机游走行期权复制的研究并推导出若干公式)

D. W. TANG, Z. Z. CAI..... 826

The Impact of Residential Area Opening on Road Traffic

(小区开放对道路通行的影响)

J. H. ZHENG, Y. X. ZHANG, J. M. WANG..... 838

Research on the Related Problems of Quadratic Numerical Radius
(二次数值半径相关问题研究)

J. W. LIU, Z. J. SUN, J. F. ZHAO, B. Y. HU, C. H. BAO, D. Y. WU.....852

Stability and Co-Dimension One Bifurcation Analysis of a Class of

Lorenz-Type Chaotic System with Memristor

(一类具有忆阻器的 Lorenz 型混沌系统稳定性及余维一分岔分析)

J. HUANG, Y. M. CHEN.....858