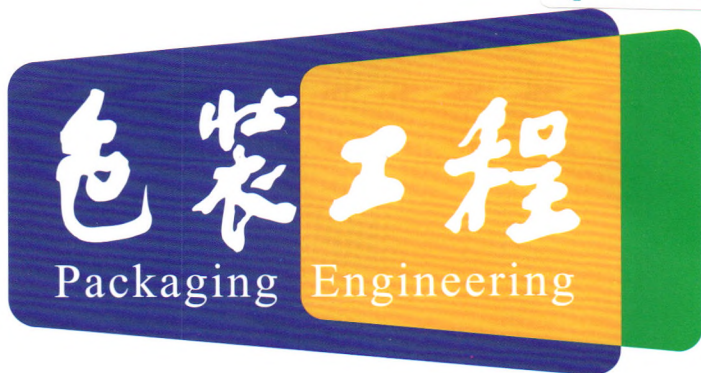


全国中文核心期刊  
中国科学引文数据库 (CSCD) 源刊

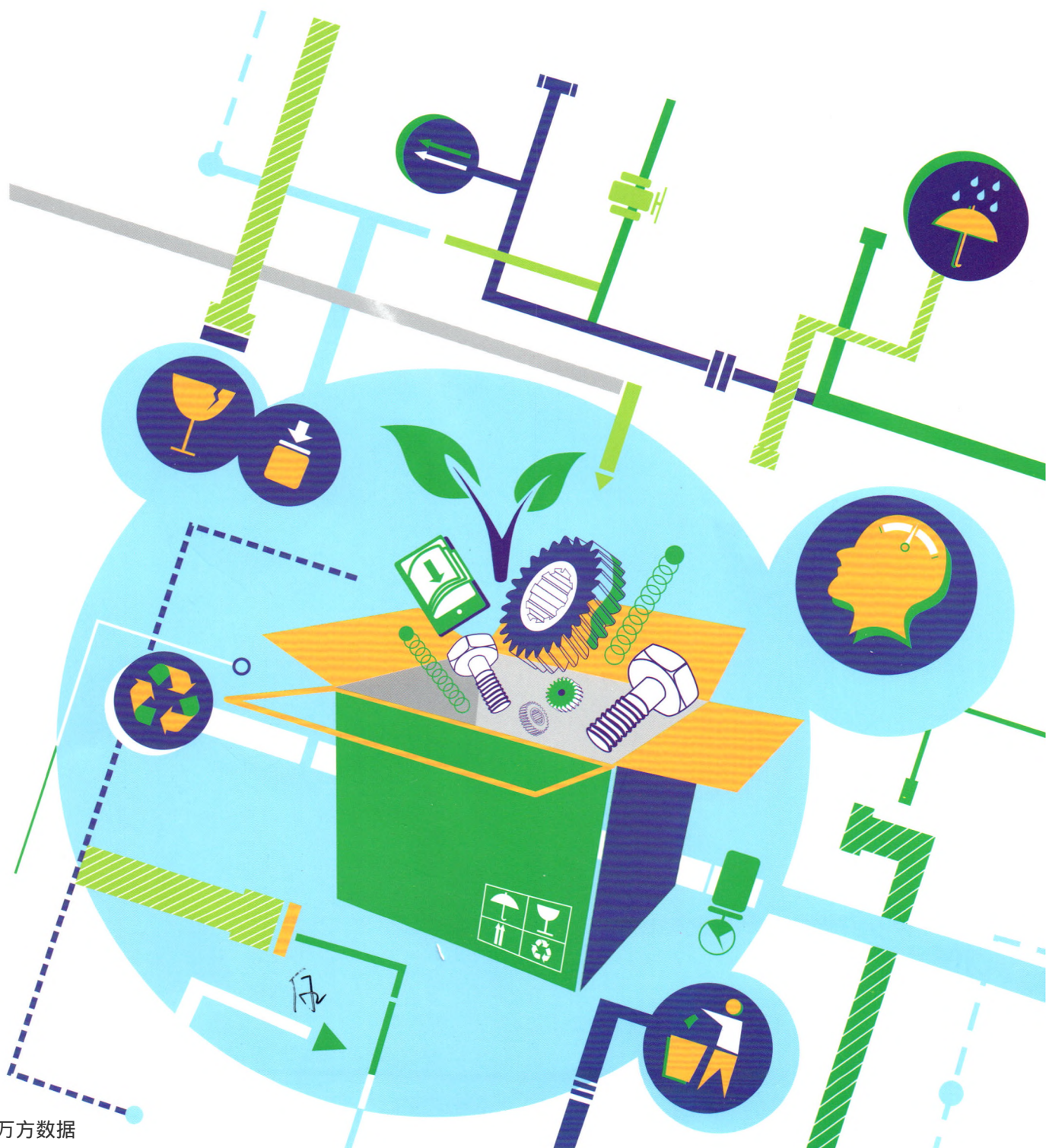
2017年5月 第38卷 第9期

主办单位: 中国兵器工业第五九研究所



# 专题——食品保鲜包装技术

Special Topic on Food Fresh-keeping Packaging Techniques



# 包装工程

BAOZHUANG GONGCHENG

第38卷 第9期 2017年5月10日

## 目次

### 食品保鲜包装技术专题

- 活性包装技术在果蔬保鲜上的应用研究进展  
隋思瑶, 王毓宁, 马佳佳, 陆皓茜, 章建浩 1
- 果蔬涂膜保鲜包装材料及技术应用研究进展  
肖玮, 孙智慧, 刘洋, 林晶, 董静 7
- 层层自组装可食用保鲜膜的性能探究  
刘雪帆, 葛宇启, 董世香, 葛丽芹, 章建浩 13
- 微冻条件下对生食金枪鱼复合保鲜剂的优化  
邓添, 谢晶 19
- 丁香精油涂布纸箱对水蜜桃的保鲜效果  
黄巍, 王建清, 高康, 张倩, 刘光发, 董婧, 李杨 25
- 丁香精油等改性 PE 膜及其对抑菌保鲜性能的影响  
陆漓, 刘鸿, 梁俊, 李典 31
- 可释放 SO<sub>2</sub> 复合膜对葡萄保鲜性能的影响  
魏华, 许文才, 李东立 36
- 贮藏温度对微孔膜包装茶树菇保鲜效果的影响  
赵彬, 黄美娜, 袁毅, 崔爽 41
- 荔枝包装的风险识别与分析  
邹炽导, 陆华忠, 吕恩利, 曾志雄, 杨松夏 46

### 重点推介

- 抗静电纤维素纳米晶体彩虹防伪标签膜的制备  
万轩, 张亚运, 孙誉飞, 李大纲 53
- 溶剂残留(甲苯)校准回归方程的建立及评价  
李志平, 吴雄杰, 赵康, 方强, 金仲, 汪佳, 江小平 59
- 基于无线通讯的旋转称量式灌装旋盖机设计  
段文军, 徐志刚, 屠凤莲, 徐德众, 冯巍 65
- 考虑专家权重的包装企业云服务供应商综合评估  
李联辉, 吕硕, 曹富宏, 张立 69

### 包装材料

- 魔芋粉-卡拉胶可食性包装膜的制备工艺  
吕焱, 席丽敏, 蔡静蕊, 向怡纯, 谢琴妍, 高思玮 75
- 95 °C 热水老化后聚碳酸酯的热稳定性  
周从恒, 黄彦红, 孔玲佩, 王爱民, 郭兵, 高建国, 赵永仙 80
- 微晶纤维素改性对聚乙烯醇薄膜性能的影响  
陈晨伟, 陈柚吉, 许哲玮, 马亚蕊, 刘晋良, 谢晶 85
- 透明超疏水聚乙烯薄膜的制备及性能分析  
汪海燕, 钱怡 91
- 重载纤维模塑材料热压成型的水分传递过程  
王全亮, 肖生苓, 岳金权, 陆新宗 96
- 壳聚糖基抗菌复合膜的制备与性能  
杨旭, 钱怡 102
- 桉叶精油微胶囊工艺优化及缓释性能研究  
任小玲, 岳淑丽, 向红, 陈讷敏, 陈洁莹, 陈嘉宜, 周敏容 107
- 有机-无机混合相变材料的热物性研究  
吴丽彬, 陈威, 钱静 113

## 研究进展

计算流体力学技术在食品冷藏链中的应用	汪磊, 谢晶	118
肉桂醛复合材料的制备工艺及其应用研究现状	张蓉, 兰文婷, 王毅豪, 闫大成, 刘耀文	124
活性-智能包装在肉类工业中的应用进展	王长安, 陈杰, 陈玉婷, 邹永德, 李杓枝, 罗敏	130

## 包装技术与工艺

全瓦楞纸板的红酒包装内衬设计及跌落分析	石岩, 张括, 王芳, 张萌, 钟鸣星	135
预压缩对蜂窝纸板能量吸收的影响	崔艳, 陈丽	141
基于机器视觉的红酒灌装品质检测	陈露, 程红, 秦帅, 刘星, 吴习宇	146
基于机器视觉的零件特征尺寸提取算法	杨仁民, 郑洲, 陈斌, 张学昌, 张炜	151

## 包装机械

筒子纱自动装袋系统结构设计及仿真	李瑞琴, 楚淑芳, 李清	157
RV 减速器摆线轮模态分析与结构优化	王葵葵, 李可, 宿磊, 袁兵	162
基于 QFD 与 TRIZ 的多种类混合装箱包装机设计	陈少克, 李锦涛, 谢晓扬, 孔令立, 郭志恒, 陈志稳	168
2-UPR-SPR 并联机构的刚度与谐响应分析	李俊帅, 马春生, 李瑞琴, 曹磊	173
精密轴承的预紧力定位包装研究	张振宇, 智慧, 田野, 孙智慧, 田亚男	178
基于 Study 参数分析 Delta 机构运动约束	刘伟	183
称量传感器标定装置机架谐响应分析	张昌明, 冯博琳, 贺洋洋, 郭昌盛	188
基于仿真的 PET 带锥面组合输送轮的设计与优化	刘涛, 葛乐通, 石浦, 孙俊林, 蔡光泉, 魏兵	194
基于功能分析法的 PVC 扣板自动包装机设计	王峰, 王智伟, 陆有春, 王吉岱, 刘毅	198
纸堆翻转机液压系统设计	王灿才, 王所杰	204
自动定量称量包装传感器信号去噪算法	田雪	209

## 包装印刷

基于 Hough 变换旋转校正的 QR 码全息水印算法	龚一珉, 孙刘杰	213
高频 RFID 标签天线丝网印刷工艺	刘薇, 陈广学, 张育思	219
基于 OSA-UCS 数据的 CIECAM02 图像复制色差评价	杨文兵, 万晓霞, 邹文华	225
一种改进的图像低维表示方法	曾步衢	230
基于超像素分割的扫描图像去网算法	张帆, 渠星星, 张偌雅, 李珍珍, 张新红	236
基于图像处理的包装印刷缺陷检测方法	周继彦, 余正泓	240
MakerBot3D 打印机虚拟装配系统的设计与实现	张海月, 司占军	245

## 广告索引

封二	普拉斯包装材料有限公司
封三	中国兵器工业第五九研究所包装工程技术研究中心
插页	
A1	济南兰光机电技术有限公司
A2	第五届军品防护与包装发展论坛暨成果展示征文通知(第一轮)
A3	国防科技工业自然环境试验研究中心

期刊基本参数: CN 50-1094/TB\*1980\*s\*A4\*248\*zh\*P\*¥ 45.00\*5000\*46\*2017-05

# PACKAGING ENGINEERING

(Initial Issue 1980)(Semimonthly)

Vol.38 No.9(Total No.351)May 10, 2017

## Contents

---

### Special Topic on Food Fresh-keeping Packaging Techniques

---

Research Advances of Application of Active Packaging Technology in Preservation of Fruits and Vegetables

*SUI Si-yao, WANG Yu-ning, MA Jia-jia, et al.* 1

Application Research Progress of Fresh-keeping Packaging Material and Technology of Fruit and Vegetable Film

*XIAO Wei, SUN Zhi-hui, LIU Yang, et al.* 7

Performance of Edible Preservative Film Based on Layer-by-layer Self-assembly Technique

*LIU Xue-fan, GE Yu-qi, DONG Shi-xiang, et al.* 13

Optimization of Complex Preservatives of Uncooked Tuna Sashimi under Partial Freezing

*DENG Tian, XIE Jing* 19

Fresh-keeping Effect of Carton Coated with Clove Essential Oil on Juicy Peaches

*HUANG Wei, WANG Jian-qing, GAO Kang, et al.* 25

PE Film Modified by Clove Essential Oil and Its Effects on Antibacterial and Preservation Performances

*LU Li, LIU Hong, LIANG Jun, et al.* 31

Effect of Composite Film Releasing SO<sub>2</sub> on the Preservation Performance of Grapes

*WEI Hua, XU Wen-cai, LI Dong-li* 36

Effect of Storage Temperature on Agrocybe Aegerita Packaged with Micro-porous Film

*ZHAO Bin, HUANG Mei-na, YUAN Yi* 41

Risk Identification and Analysis of Litchi Packaging

*ZOU Chi-dao, LU Hua-zhong, LYU En-li, et al.* 46

---

### Highlights

---

Preparation of Iridescence Anti-counterfeiting Label Films of Anti-electrostatic Nano-crystalline Celluloses

*WAN Xuan, ZHANG Ya-yun, SUN Yu-fei, et al.* 53

Establishment and Evaluation of Calibration Regression Equation for Residual Solvent (Methylbenzene)

*LI Zhi-ping, WU Xiong-jie, ZHAO Kang, et al.* 59

Rotary Weighing Filling-oriented Capping Machine Based on Wireless Communication

*DUAN Wen-jun, XU Zhi-gang, TU Feng-lian, et al.* 65

Comprehensive Assessment of Packaging Enterprise Cloud Service Vendors Considering Expert Weight

*LI Lian-hui, LYU Shuo, CAO Fu-hong, et al.* 69

---

### Packaging Materials

---

Preparation Technology of Edible Konjac Flour-Carrageen Packaging Film

*LYU Yan, XI Li-min, CAI Jing-rui, et al.* 75

Thermal Stability of Polycarbonate after Hot-water Aging at 95 °C

*ZHOU Cong-heng, HUANG Yan-hong, KONG Ling-pei, et al.* 80

Effect of Modified Microcrystalline Cellulose on Properties of Poly-(Vinyl Alcohol) Film

*CHEN Chen-wei, CHEN You-ji, XU Zhe-wei, et al.* 85

Preparation and Performance Analysis of Transparent Superhydrophobic Polyethylene Film

*WANG Hai-yan, QIAN Yi* 91

Moisture Transfer Process of Hot-Press Molding of Overloaded Molded Fiber Material

*WANG Quan-liang, XIAO Sheng-ling, YUE Jin-quan, et al.* 96

The Preparation and Performance of Chitosan-Based Antibacterial Composite Film

*YANG Xu, QIAN Yi* 102

Process Optimization of Microencapsulation and Controlled-Release Properties on the Eucalyptus Essential Oil

*REN Xiao-ling, YUE Shu-li, XIANG Hong, et al.* 107

Thermophysical Property of Organic-Inorganic Phase Change Mixed Material

*WU Li-bin, CHEN Wei, QIAN Jing* 113



---

## Research Progress

---

- Application of Computational Fluid Dynamics Technology in Food Cold Chain  
*WANG Lei, XIE Jing* 118
- Research Status of Preparation Technology and Application of Cinnamaldehyde Compound Materials  
*ZHANG Rong, LAN Wen-ting, WANG Yi-hao, et al.* 124
- Advances of Active and Intelligent Packaging Applications in Meat Industry  
*WANG Chang-an, CHEN Jie, CHEN Yu-ting, et al.* 130
- 

## Packaging Technology and Process

---

- Design and Dropping Analysis of Package Lining for Red Wine with All Corrugated Board  
*SHI Yan, ZHANG Kuo, WANG Fang, et al.* 135
- The Effect of Pre-compression on the Energy Absorption of Honeycomb Cardboard  
*CUI Yan, CHEN Li* 141
- Filling Quality Detection of Wine Base on Machine Vision  
*CHEN Lu, CHENG Hong, QIN Shuai, et al.* 146
- Extraction Algorithm of Part Feature Sizes Based on Machine Vision  
*YANG Ren-min, ZHENG Zhou, CHEN Bin, et al.* 151
- 

## Packaging Machinery

---

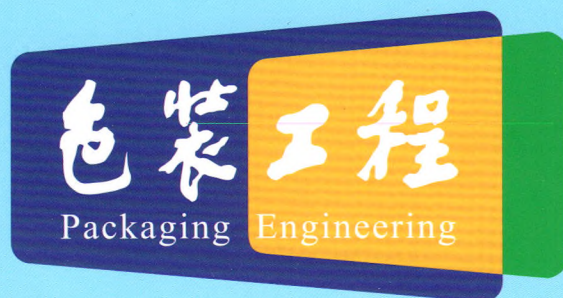
- Structure Design and Simulation of Cheese Automatic Bagging System  
*LI Rui-qin, CHU Shu-fang, LI Qing* 157
- Modal Analysis and Structure Optimization of Cycloid Gear in RV Reducer  
*WANG Kui-kui, LI Ke, SU Lei, et al.* 162
- Design of Multi-Species Mixed Packaging Machine Based on QFD and TRIZ  
*CHEN Shao-ke, LI Jin-tao, XIE Xiao-yang, et al.* 168
- Stiffness and Harmonic Response of 2-UPR-SPR Parallel Mechanism  
*LI Jun-shuai, MA Chun-sheng, LI Rui-qin, et al.* 173
- Pre-tightening Force Positioning Packaging of Precision Bearing  
*ZHANG Zhen-yu, ZHI hui, TIAN Ye, et al.* 178
- Analysis of Kinematic Constraints of Delta Mechanism Based on Study Parameters  
*LIU Wei* 183
- Harmonic Response of Calibration Device Rack of Load Cell  
*ZHANG Chang-ming, FENG Bo-lin, HE Yang-yang, et al.* 188
- Design and Optimization for Combined Conical Conveyor Wheels with PET Belts Based on Simulation  
*LIU Tao, GE Le-tong, SHI Pu, et al.* 194
- Design of Automatic Packaging Machine for PVC Gusset Plate Based on Functional Analysis  
*WANG Feng, WANG Zhi-wei, LU You-chun, et al.* 198
- Design of Hydraulic System for Paper Pile Turner  
*WANG Can-cai, WANG Suo-jie* 204
- Signal Denoising Algorithm for Automatic Quantitative Weighing Packaging Sensor  
*TIAN Xue* 209
- 

## Packaging Printing

---

- Algorithm of QR Code Holographic Watermark Based on Skew Correction by Hough Transform  
*GONG Yi-min, SUN Liu-jie* 213
- Screen Printing Technology of HF RFID Tag Antenna  
*LIU Wei, CHEN Guang-xue, ZHANG Yu-si* 219
- Color Difference Evaluation on Image Reproduction of CIECAM02 Based on OSA-UCS Data  
*YANG Wen-bing, WAN Xiao-xia, ZOU Wen-hua* 225
- An Improved Method of Low-Dimensional Representation of Images  
*ZENG Bu-qu* 230
- Descreening Algorithm of Scanned Images Based on Superpixel Segmentation  
*ZHANG Fan, QU Xing-xing, ZHANG Ruo-ya, et al.* 236
- Package Printing Defect Detection Method Based on Image Processing  
*ZHOU Ji-yan, YU Zheng-hong* 240
- Design and Implementation of MakerBot3D Printer Virtual Assembly System  
*ZHANG Hai-yue, SI Zhan-jun* 245
-





全国中文核心期刊  
中国科学引文数据库（CSCD）源刊

主办单位：中国兵器工业第五九研究所

ISSN 1001-3563

CN 50-1094 / TB

定价：45.00元

邮发代号：78-30

国外发行号：BM1799

广告经营许可证：渝工商广字040297号

ISSN 1001-3563



万方数据