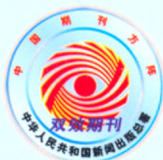


《中文核心期刊要目总览》收录
Ei Compendex(核心版)收录
百种中国杰出学术期刊
RCCSE中国权威学术期刊

2012.22
第28卷 VOL. 28



ISSN 1002-6819
CN 11-2047/S
CODEN NGOXEO

农业工程学报

TRANSACTIONS OF THE CHINESE SOCIETY
OF AGRICULTURAL ENGINEERING

NONGYE
GONGCHENG
XUEBAO



ISSN 1002-6819



9 771002 681122

万方数据

中国科学技术协会 主管

中国农业工程学会 主办

农业工程学报

2012 年第 22 期 总第 199 期 (第 28 卷)

目 次

• 综合研究 •

中国西部区耕地等别空间分布特征 孔祥斌, 张青璞 (1)

• 农业装备工程与机械化 •

气吸式排种器带式导种装置的设计与试验 陈学庚, 钟陆明 (8)

轴向振筛式秸秆粉碎机研制与试验 付 敏, 李 锐, 马 雷 (16)

温室微型遥控电动拖拉机的研制与试验 王元杰, 刘永成, 杨福增, 等 (23)

空间 4-SPS/CU 并联机构的受力分析 王庚祥, 刘宏昭, 原大宁 (30)

基于 CFD 的 6MF-30 型风力灭火机多目标优化 辛 喆, 王顺喜, 李钊婧, 等 (39)

高压多级泵水润滑轴承-转子系统动力稳定性分析 蒋小平, 施卫东, 李 伟, 等 (45)

基于 CFD 的潜水轴流泵性能分析及其特性试验 沙 毅, 侯丽艳 (51)

变速箱齿轮磨损故障的极坐标角-频表示与诊断 贾继德, 张玲玲, 曾锐利, 等 (58)

齿轮泵齿侧间隙与卸荷槽间距关系的定量分析 李玉龙, 孙付春 (63)

水冷式低温等离子体反应器的性能试验 李康华, 蔡忆昔, 李小华, 等 (69)

• 农业水土工程 •

南水北调东线工程江苏段水资源优化配置 侍翰生, 程吉林, 方红远, 等 (76)

长期膜下滴灌农田土壤盐分时空变化 李明思, 刘洪光, 郑旭荣 (82)

覆膜和露地旱作春玉米生长与蒸散动态比较 王罕博, 龚道枝, 梅旭荣, 等 (88)

干旱区不同灌溉方式对枣树水分利用效率和果实品质的影响 任玉忠, 王水献, 谢 蕾, 等 (95)

畦灌条件下液施与撒施硫酸铵施肥性能评价 章少辉, 许 迪, 白美建, 等 (103)

采用 SCS-CN 水文模型和 GIS 确定雨水集蓄工程的位置 王红雷, 王秀茹, 王 希, 等 (108)

基于 CT 图像的土壤孔隙结构三维重建及水力学性质预测 程亚南, 刘建立, 吕 菲, 等 (115)

松辽平原中部地区应对气候干旱变化的土壤耕作技术 尹小刚, 刘武仁, 郑洪兵, 等 (123)

区域尺度下黄土高原土壤全钾含量的空间模拟 刘志鹏, 邵明安, 王云强 (132)

基于 QuickBird 影像估算晋西黄土区切沟发育速率 李 镇, 张 岩, 姚文俊, 等 (141)

基于元胞自动机的黄土小流域地形演变模拟 曹 敏, 汤国安, 张 芳, 等 (149)

乌兰布和沙漠沿黄河区域下垫面特征及风沙活动观测 杜鹤强, 薛 娴, 孙家欢 (156)

• 农业信息与电气技术 •

基于达芬奇技术的收割机视觉导航图像处理算法试验系统 张成涛, 谭 戢, 吴 刚, 等 (166)

基于凸壳理论的遮挡苹果目标识别与定位方法 宋怀波, 何东健, 潘景朋 (174)

基于空间信息的农业干旱综合监测模型及其应用 李海亮, 戴声佩, 胡盛红, 等 (181)

宁夏春小麦干热风危害的光谱特征分析 刘 静, 张学艺, 马国飞, 等 (189)

基于地统计学的棉花冠层光合有效辐射空间分布特征 李亚兵, 毛树春, 冯 璐, 等 (200)

中国区域多源土地覆被遥感产品精度分析与验证 宋宏利, 张晓楠 (207)

• 农业生物环境与能源工程 •

基于热泵加温系统的沼气池经济保温层厚度确定 石惠娴, 黄 超, 朱洪光, 等 (215)

水冷式猪床冬季保温措施对妊娠母猪小群饲养的影响 李 伟, 林保忠, 刘作华, 等 (222)

太阳能蒸汽爆破和微波预处理对玉米秸秆产沼气的影响 刘伟伟, 马 欢, 曹成茂, 等 (227)

过磷酸钙添加剂对猪粪堆肥温室气体和氨气减排的作用 罗一鸣, 李国学, Frank Schuchardt, 等 (235)

• 土地整理工程 •

四川省中江县高标准基本农田建设时序与模式分区 冯 锐, 吴克宁, 王 倩 (243)

气候和土地利用变化对潮白河流域径流变化的定量影响 赵 阳, 余新晓, 郑江坤, 等 (252)

丹阳市农村居民点空间分布尺度特征及影响因素分析 沈陈华 (261)

• 农产品加工工程 •

南五味子提取液复配剂涂膜对鸡蛋常温保鲜效果 赵美美, 于 新, 杨鹏斌, 等 (269)

BP 神经网络结合有效积温预测速冻水饺变温冷藏货架期 潘治利, 黄忠民, 王 娜, 等 (276)

用低场核磁分析胡萝卜切片干燥过程的内部水分变化 张绪坤, 祝树森, 黄俭花, 等 (282)

澳洲坚果果仁粉水分解吸-吸附等温线的测定与分析 王云阳, 张 丽, 王绍金, 等 (288)

Transactions
of the Chinese Society of Agricultural Engineering
Vol. 28 No. 22 2012
CONTENTS

• Comprehensive Research •

Spatial distribution characteristics of arable land grade in Western China	
.....	<i>Kong Xiangbin, Zhang Qingpu (1)</i>

• Agricultural Equipment Engineering and Mechanization •

Design and test on belt-type seed delivery of air-suction metering device	
.....	<i>Chen Xuegeng, Zhong Luming (8)</i>
Development and test of straw grinder with axial vibration screen type	
.....	<i>Fu Min, Li Rui, Ma Lei (16)</i>
Development and test of tiny remotely controlled electric tractor for greenhouses	
.....	<i>Wang Yuanjie, Liu Yongcheng, Yang Fuzeng, et al. (23)</i>
Force analysis of spatial 4-SPS/CU parallel mechanism	
.....	<i>Wang Gengxiang, Liu Hongzhao, Yuan Daning (30)</i>
Multi-objective optimization of 6MF-30 pneumatic extinguishers based on CFD	
.....	<i>Xin Zhe, Wang Shunxi, Li Zhaojing, et al. (39)</i>
Dynamic stability analysis on water lubricated bearing rotor system of high pressure multistage pump	
.....	<i>Jiang Xiaoping, Shi Weidong, Li Wei, et al. (45)</i>
Performance test and analysis of submersible axial flow pump based on CFD	
.....	<i>Sha Yi, Hou Liyan (51)</i>
Polar diagram angle-frequency representation and diagnosis for gear wear fault of gearbox	
.....	<i>Jia Jide, Zhang Lingling, Zeng Ruili, et al. (58)</i>
Quantitative analysis of relationship between backlash value and distance of two relief grooves in external gear pump	
.....	<i>Li Yulong, Sun Fuchun (63)</i>
Performance test of water-cooled low-temperature plasma reactor	
.....	<i>Li Kanghua, Cai Yixi, Li Xiaohua, et al. (69)</i>

• Soil and Water Engineering •

Optimal allocation of water resources for Jiangsu section of South-to-North Water Transfer East Line Project	
.....	<i>Shi Hansheng, Cheng Jilin, Fang Hongyuan, et al. (76)</i>

Spatiotemporal variation for soil salinity of field land under long-term mulched drip irrigation	 <i>Li Mingsi, Liu Hongguang, Zheng Xurong.</i> (82)
Dynamics comparison of rain-fed spring maize growth and evapotranspiration in plastic mulching and un-mulching fields	 <i>Wang Hanbo, Gong Daozhi, Mei Xurong, et al.</i> (88)
Effects of irrigation methods on water use efficiency and fruit quality of jujube in arid area	 <i>Ren Yuzhong, Wang Shuixian, Xie Lei, et al.</i> (95)
Fertilizer performance evaluation for fertigation and conventional fertilization in basin irrigation with ammonium-sulphate application	 <i>Zhang Shaohui, Xu Di, Bai Meijian, et al.</i> (103)
Identification of potential rainwater harvesting sites using SCS-CN and GIS	 <i>Wang Honglei, Wang Xiuru, Wang Xi, et al.</i> (108)
Three-dimensional reconstruction of soil pore structure and prediction of soil hydraulic properties based on CT images	 <i>Cheng Ya'nan, Liu Jianli, Lü Fei, et al.</i> (115)
Soil tillage practices coping with drought climate change in central region of Songliao Plain	 <i>Yin Xiaogang, Liu Wuren, Zheng Hongbing, et al.</i> (123)
Spatial simulation of soil total potassium in regional scale for Loess Plateau Region	 <i>Liu Zhipeng, Shao Ming'an, Wang Yunqiang</i> (132)
Estimating gully development rates in Hilly Loess Region of Western Shanxi province based on QuickBird images	 <i>Li Zhen, Zhang Yan, Yao Wenjun, et al.</i> (141)
Simulation of terrain evolution in small loess watershed based on cellular automata	 <i>Cao Min, Tang Guo'an, Zhang Fang, et al.</i> (149)
Underlying surface characteristics and observation of blown-sand movement in Ulanbuh Desert along Bank of Yellow River	 <i>Du Heqiang, Xue Xian, Sun Jiahuan</i> (156)

• Agricultural Information and Electrical Technologies •

Testing system of image processing algorithm of visual navigation system for harvester based on DaVinci technology	 <i>Zhang Chengtao, Tan Yu, Wu Gang, et al.</i> (166)
Recognition and localization methods of occluded apples based on convex hull theory	 <i>Song Huaibo, He Dongjian, Pan Jingpeng</i> (174)
Comprehensive monitoring model for agricultural drought and its application based on spatial information	 <i>Li Hailiang, Dai Shengpei, Hu Shenghong, et al.</i> (181)
Analysis on spring wheat spectrum characteristics influenced by dry-hot wind in Ningxia	 <i>Liu Jing, Zhang Xueyi, Ma Guofei, et al.</i> (189)
Spatial distribution characteristics of photosynthetic active radiation in cotton canopy based on geo-statistics	 <i>Li Yabing, Mao Shuchun, Feng Lu, et al.</i> (200)

Precision analysis and validation of multi-sources landcover products derived from remote sensing in China
 *Song Hongli, Zhang Xiaonan* (207)

• Agricultural Bioenvironmental and Energy Engineering •

Determination of economical insulation thickness for fordigester based on heat pump heating system
 *Shi Huixian, Huangchao, Zhu Hongguang, et al.* (215)

Effects of heat preservation of water-cooled swine beds on small group raising of pregnant sows in winter
 *Li Wei, Lin Baozhong, Liu Zuohua, et al.* (222)

Effects of pretreatments with steam-explosion using solar energy and microwave irradiation on biogas production of corn stalk
 *Liu Weiwei, Ma Huan, Cao Chengmao, et al.* (227)

Effects of additive superphosphate on NH_3 , N_2O and CH_4 emissions during pig manure composting
 *Luo Yiming, Li Guoxue, Frank Schuchardt, et al.* (235)

• Land Consolidation and Rehabilitation Engineering •

Time sequence and mode partition of high-standard prime farmland construction in Zhongjiang county, Sichuan province
 *Feng Rui, Wu Kening, Wang Qian.* (243)

Quantitative effects of climate variations and land-use changes on annual streamflow in Chaobai river basin
 *Zhao Yang, Yu Xinxiao, Zheng Jiangkun, et al.* (252)

Spatial distribution scale characteristics of rural settlements and analysis on influencing factors in Danyang city
 *Shen Chenhua.* (261)

• Agricultural Produce Processing Engineering •

Preservative effects of coating with compound agents combined with extract from *Kadsura Longipedunculata* on chicken eggs at room temperature *Zhao Meimei, Yu Xin, Yang Pengbin, et al.* (269)

Prediction of shelf life for quick-frozen dumpling based on BP neural network and effective accumulated temperature theory *Pan Zhili, Huang Zhongmin, Wang Na, et al.* (276)

Analysis on internal moisture changes of carrot slices during drying process using low-field NMR
 *Zhang Xukun, Zhu Shusen, Huang Jianhua, et al.* (282)

Determination and analysis of water desorption and adsorption isotherms of macadamia nut kernel flour
 *Wang Yunyang, Zhang Li, Wang Shaojin, et al.* (288)