

# 计算机辅助设计与图形学学报

(JISUANJI FUZHU SHEJI YU TUXINGXUE XUEBAO)

第 22 卷 第 12 期

2010 年 12 月

## 目 次

### 图形算法与技术

|                        |                                |
|------------------------|--------------------------------|
| 姿态无关的人体模型朝向判定          | 吴伟和, 郝爱民, 赵永涛 (2061)           |
| 利用控制线段的实时图像变形方法        | 黄 武, 姚淑波, 关胜亮, 夏时洪 (2067)      |
| 基于近似凸分割策略的多边形分割方法      | 周红光, 汪国昭, 韩敬利 (2073)           |
| 基于冷暖光照模型的矢量场稀疏纹理绘制     | 蔡 勋, 岳 凯, 徐华勋 (2083)           |
| 一类等距不变量及其在三维表情人脸识别中的应用 | 胡 平, 曹伟国, 李 华 (2089)           |
| 基于高度梯度图的微结构表面阴影绘制方法    | 杨 峥, 王莉莉, 马志强, 赵沁平 (2095)      |
| 参数曲线到隐式曲面的正交投影算法       | 徐海银, 方雄兵, 胡利安, 吴晓峰, 李端玲 (2103) |
| 基于网格分割的带纹理模型细节保持化简方法   | 薛 冰, 王莉莉, 沈 哲 (2111)           |
| Delaunay 四面体软组织建模方法    | 李艳波, 印桂生, 张 菁, 朱长明, 倪 军 (2119) |
| 一种移动终端笔画字体存储结构及轮廓化算法   | 张骥先, 罗 蕾, 姜 帆 (2125)           |
| 带材质的 GPU 加速体绘制算法       | 葛 军, 舒华忠, 罗立民 (2133)           |

### CAD/CAT/CAM/CG 系统设计与应用技术

|                        |                                     |
|------------------------|-------------------------------------|
| 求解三维装配约束闭环的投影变换方法      | 黄学良, 陈立平, 王波兴 (2138)                |
| 面向现浇混凝土结构的三维分层参数化设计方法  | 吉稀林, 黄学良, 陈 钢, 王波兴, 陈立平 (2147)      |
| 解同步电路中的功耗优化方法          | 石 伟, 沈 立, 任洪广, 苏 博, 王志英 (2155)      |
| CAD 模型自动语义标注           | 张 欣, 莫 蕊, 宫中伟, 连 鑫 (2162)           |
| 基于自由度分析的耦合几何约束求解       | 戴春来 (2168)                          |
| 微径球头铣刀铣削表面误差建模与仿真      | 张 翔, 韩振宇, 富宏亚, 孙雅洲 (2177)           |
| 面向客户便捷交互的三维衣领款式参数化设计技术 | 王 进, 陆国栋, 陈 龙, 李威龙, 耿玉磊, 刘 正 (2182) |
| 面向坐姿舒适性测试的人机工程仿真系统     | 杨钟亮, 孙守迁 (2192)                     |
| 抑制灰度单元的改进优化准则法         | 龙 凯, 赵红伟 (2197)                     |

### 图像与图形的融合

|                       |                           |
|-----------------------|---------------------------|
| 隐式曲面多相图像分割的变分水平集方法    | 王 喆, 潘振宽, 魏伟波 (2202)      |
| 局部样条嵌入的正交半监督子空间学习算法   | 朱 科, 邵 健, 郭同强 (2209)      |
| 基于 SURF 算法的水下图像实时配准方法 | 谢雨来, 李醒飞, 吕津玮, 高雅彪 (2215) |
| 基于四维图像的心室应力应变分析       | 管 秋, 陈胜勇, 杜雅慧, 王万良 (2221) |

### VLSI 设计与测试及电子设计自动化

|                          |                                |
|--------------------------|--------------------------------|
| 结合 PVT 模拟和排队模型的系统级主存性能分析 | 林 桦, 佟 冬, 黄 倪, 王克义, 程 旭 (2228) |
| 基于输入向量控制的衬底偏置技术面积优化方法    | 孙朝璐, 黄 琦, 路祖莹 (2237)           |
| 考虑工作负载影响的电路老化预测方法        | 靳 松, 韩银和, 李华伟, 李晓维 (2242)      |

### 计算机辅助几何设计

|                  |                 |
|------------------|-----------------|
| 几何区间裁剪算法收敛性分析和比较 | 刘海霞, 李 新 (2250) |
|------------------|-----------------|

### 虚拟现实与计算机动画

|                      |                 |
|----------------------|-----------------|
| GPU 实时构建四叉树的快速地形渲染算法 | 李白云, 赵春霞 (2259) |
|----------------------|-----------------|

|     |     |
|-----|-----|
| 总目次 | (i) |
|-----|-----|

# Journal of Computer-Aided Design & Computer Graphics

Vol. 22 No. 12

December, 2010

## Contents

### Algorithms and Techniques of Graphics

- Human Body Orientation Recognition with Arbitrary Postures ..... *Wu Weihe, Hao Aimin, Zhao Yongtao* (2061)  
A Real-Time Image Deformation Method Based on Line Handles .....  
..... *Huang Wu, Yao Shubo, Guan Shengliang, Xia Shihong* (2067)  
New Approach for Decomposing a Polygon Based on Approximate Convex Decomposition .....  
..... *Zhou Hongguang, Wang Guozhao, Han Jingli* (2073)  
Sparse Texture Visualization for Vector Fields Based on Cool/Warm Illumination Model .....  
..... *Cai Xun, Yue Kai, Xu Huazun* (2083)  
A Novel Isometric Invariant and its Applications in 3D Face Recognition ..... *Hu Ping, Cao Weiguo, Li Hua* (2089)  
Shadow Rendering for Meso-structure Surface Based on Height Gradient Map .....  
..... *Yang Zheng, Wang Lili, Ma Zhiqiang, Zhao Qinping* (2095)  
An Algorithm for Curve Orthogonal Projections onto Implicit Surfaces .....  
..... *Xu Haiyin, Fang Xiongbing, Hu Li'an, Wu Xiaofeng, Li Duanling* (2103)  
Grid-Segmentation-Based Textured Model Simplification ..... *Xue Bing, Wang Lili, Shen Zhe* (2111)  
An Improved Method of Soft Tissue Modeling Based on Delaunay Tetrahedralization .....  
..... *Li Yanbo, Yin Guisheng, Zhang Jing, Zhu Changming, Ni Jun* (2119)  
A Stroke Based Font Structure and an Outline Algorithm for Mobile Devices ..... *Zhang Jixian, Luo Lei, Jiang Fan* (2125)  
GPU Accelerated Volume Rendering with Material ..... *Ge Jun, Shu Huazhong, Luo Limin* (2133)

### System Design and Application Technology in CAD/CAT/CAM/CG

- A Projection Transformation Method for Solving 3D Assembly Geometric Constraint Closed-Loops .....  
..... *Huang Xueliang, Chen Liping, Wang Boxing* (2138)  
3D Hierarchically Parametric Design Method for Cast-in-Place Concrete Structures .....  
..... *Gu Xilin, Huang Xueliang, Chen Gang, Wang Boxing, Chen Liping* (2147)  
An Approach of Power Optimization for De-synchronized Circuits .....  
..... *Shi Wei, Shen Li, Ren Hongguang, Su Bo, Wang Zhiying* (2155)  
Automatic Semantic Tagging of CAD Models for Retrieval ..... *Zhang Xin, Mo Rong, Gong Zhongwei, Lian Xin* (2162)  
Resolving Coupling Geometric Constraint Problems with DOF Analysis ..... *Dai Chunlai* (2168)  
Modeling and Simulation of Machined Surface Error in Micro-Ball-End Milling .....  
..... *Zhang Xiang, Han Zhenyu, Fu Hongya, Sun Yazhou* (2177)  
Customer Oriented Interactive 3D Parametric Design of Collar Styles .....  
..... *Wang Jin, Lu Guodong, Chen Long, Li Weilong, Geng Yulei, Liu Zheng* (2182)  
Ergonomics Simulation System for Sitting Comfort Measurement ..... *Yang Zhongliang, Sun Shouqian* (2192)  
A Modified Optimality Criterion Method for Gray Elements Suppression ..... *Long Kai, Zhao Hongwei* (2197)

### Fusion of Image and Graphics

- Variational Level Set Methods for Multiphase Image Segmentation on Implicit Surfaces .....  
..... *Wang Qi, Pan Zhenkuan, Wei Weibo* (2202)  
A Semi-supervised Orthogonal Subspace Learning with Spline Embedding ..... *Zhu Ke, Shao Jian, Guo Tongqiang* (2209)  
Underwater Images Real-Time Registration Method Based on SURF .....  
..... *Xie Yulai, Li Xingfei, Lu Jinwei, Gao Yabiao* (2215)  
Strain and Stress Analysis of Cardiac Ventricles from 4D Images .....  
..... *Guan Qiu, Chen Shengyong, Du Yahui, Wang Wanliang* (2221)

### VLSI Design, Test and Electronic Design Automation

- Combining PVT Simulation and Queueing Model for System-Level Performance Analysis of Main Memory System ...  
..... *Lin Hua, Tong Dong, Huang Kan, Wang Keyi, Cheng Xu* (2228)  
Area Optimization Algorithm for Body Bias Technique Based on Input Vector Control .....  
..... *Sun Zhaoshan, Huang Kun, Luo Zuying* (2237)  
On Predicting Circuit Aging via Considering Actual Workload ..... *Jin Song, Han Yinhe, Li Huawei, Li Xiaowei* (2242)

### Computer Aided Geometric Design

- Convergence Analysis and Comparison for Geometric Interval Clipping ..... *Liu Haixia, Li Xin* (2250)

### Virtual Reality and Computer Animation

- A GPU Based Run-Time Quad-Tree Construction Method for Fast Terrain Rendering ... *Li Baiyun, Zhao Chunxia* (2259)