COE Lecture Note Series

Volume No. 27

Title : Forum "Math-for-Industry" and Study Group Workshop Information security, visualization and inverse problems, on the basis of optimization techniques

Editors : Faculty of Mathematics, Kyushu University Written In : English ISSN : 1881-4042 Published In : 2010 年 10 月 21 日

Contents :

From Graphics to Computation
Visual Simulation of Natural Phenomena Based on Computational Fluid Dynamics
Manufacturing and Processing of Steel – a Challenge for Industrial Mathematics ····································
Semidefinite Programming: Algorithms and Applications
Deformations of Planar Quad Meshes
Scattered Interpolation in Computer Graphics
Achieving Fairness in Non-repudiation Protocols ······16 ZHOU, Jianying (Institute for Infocomm Research)
Generalized Algorithm for Strong Discrete Logarithms

A Survey of Pairing-Based Cryptography24 GALBRAITH, Steven D. (Auckland University)
Cryptanalysis and Side-channel Analysis – Approach to Optimal Differential Fault Analysis
Mechanisms and Applications of Digital Watermarking
Algebraic and Topological Approaches to Visualizing Complexities
Inverse Problems in Industry: Modelling and Computation38 CHENG, Jin (Fudan University)
Recovery of Information from Stress-Strain Measurements39 ANDERSSEN, Bob (CSIRO Mathematics, Informatics and Statistics)
Wavelet and Signal Source Separation40 ASHINO, Ryuichi (Osaka Kyoiku University)
Fast Enumerative Solver for Polynomial Systems over GF2 ·····45 CHENG, Chen-Mou (National Taiwan University)
Triangle Mesh Modeling for CG Applications
Inverse Problems and Optimal Control

Study Group Workshop

Validity of Lattice Reduction Algorithms for CVP63 SATO, Hisayoshi (Hitachi, Ltd.)
The Section Finding Problem and Algebraic Surface Cryptosystems
Challenges in Provable Security of Cryptosystems74 CHANDRASEKHARAN, Pandu Rangan (Indian Institute Technology)
Interactive Editing of Light and Shade for 3DCG76 ANJYO, Ken (OLM Digital Inc.)
Open Problems in Visual Effects
Inverse Problem from a Multi-Scale Viewpoint Utilizing a Combination of Stochastic, Analytic, and Geometric Modeling ·83 NAKAGAWA, Junichi (Nippon Steel Corporation)
Analysis and Utilization of Spectroscopic Data
The Problem of the Spread of Communication on the Net Space 93 HOMMA, Mike (Kao Japan)
Development of Prediction Method for Solubility of Crystalline Compound via 2D-Structure
Development of Structural Similarity Calculation System Associated with Chemists' Sense96 HIDAKA, Tadashi (Takeda Pharmaceutical Company, Ltd.)
Development of Practical Algorithm to Generate Theoretically Possible Structures under Restriction Conditions