

物理メジャー卒論タイトル / Physics Major Senior Thesis Title

Update : 2019

理論 / Theory

- Electric conductivity by Impurity Scattering
- Study of Second-order Phase Transitions and Critical Phenomena
- Study of Confinement-Induced Bound State
- Clifford Algebra and Its Application to Physics
- Study of Spatial Extension of Polymers with Self-avoiding Random Walk Model
- Responses and Fluctuation - An Analysis of the Langevin Equation -
- Effects of Non-Magnetic Impurities in Superconductors
- Thermodynamics Approach to Life
- Thermodynamic Properties of Rock-Forming Minerals
- Extension of Entropy to Non-equilibrium Thermodynamics /
非平衡熱力学へのエントロピーの拡張
- Analysis of Anomalous Magnetic Moment and Renormalization Methods for Quantum
Electrodynamics / 異常磁気モーメントの解析と量子電磁力学の繰り込み方法
- Analysis of Associative Memory with the Hopfield Model /
Hopfield 模型による連想記憶の解析
- Theory of Angle-Resolved Photoemission Spectroscopy (ARPES) and Its Application to
Superconductors / 角度分解光電子分光の理論とその超伝導体への応用
- Monte Carlo Simulation of Ising Models /
モンテカルロシミュレーションによるイジング模型の解析"
- Theory of Topological Insulators Science as a Progressive Being and Its Trajectory:
Based on Quantum Mechanics and History of Philosophy /
現在進行形としての化学の行方：量子力学と哲学史を踏まえて
- Phase Relations and Thermodynamic Properties of Mantle Minerals /
マントル鉱物の相関係と熱力学的性質
- New Roles of Science and Religion Proposed through Uncertainty in Chemical
Abundance in the Galactic Chemical Evolution /
銀河の化学進化に見る元素生成の不確実性を通じた、宗教と科学の新しい役割
- Theory of simple liquids with application to glass transition /
単純液体の理論とガラス転移研究に対するその応用
- Application of the CDMA Detection Problem with Spin-Glass Theory /

C D M A 復調問題へのスピングラス理論の応用と考察

- Theory of Superconductivity: Extention to Triplet Pairing /
超伝導理論：p 波ペアリングへの拡張
- Analysis of Stock Price Fluctuations based on the Power-Law Distribution Perspectives/
冪乗分布の観点に基づく株価変動の分析
- Analysis of Kepler's Problem using the General Relativity /
一般相対性理論によるケプラー問題の解析
- Lithium in the Universe - The Cosmological Lithium Problem and the Calculation of
Lithium Abundance - /
宇宙におけるリチウム - 宇宙リチウム問題とリチウムのアバンダンス計算 -
- A Comprehensive Analytical Approach to Evaluate Dispersion of Radiostronium since
FDNPP Accident in Comparison with Radiocesium
- Chemical Evolution in the Galactic Disk and Radial Abundance Distribution
- Early Chemical Evolution of the Galactic Halo
- Origin of Neutron-capture Elements in the Solar System Inferred from Presolar Grains
- Chemical Evolution of the Galactic Halo with Population III Stars
- Light Elements Nucleosynthesis Process and Calculation of Deuterium Abundance
- Chemical Evolution of the Galaxy and the Origin of the Essential Elements of Life /
銀河化学進化と生命の必須元素の起源
- Inhomogeneous Chemical Evolution of r-Process Elements in the Galactic Halo /
銀河系ハローにおける r 過程元素の非一様化学進化"
- Classical Mechanics on Symplectic Manifolds /
シンプレクティック多様体上の古典力学

実験 / Experimental

- Improvement efficiency of digital phase conjugate mirror by applying liquid crystal on
silicon
- The Voice Guidance System with LED Lighting for Visually Impaired Person
- Numerical theory for propagation of wave-fields and its application to digital optical
phase conjugation /
角スペクトル法を用いた光波伝搬計算とそのデジタル位相共役波への応用
- The Development of Backside-Controlling Shift Lens External Cavity Laser Diode /
後方光出力型レンズ操作式外部共振器型半導体レーザーの製作
- Alignment and Evaluation of Compensation of Phase Distortions by Digital Phase
Conjugate Mirror /

デジタル式位相共役鏡におけるアライメントと位相回復特性の評価

- Construction of Digital Optical Phase Conjugator with Reflective LC Panel and Evaluation of its Efficiency and Tracking Ability / 反射型液晶パネルを用いたデジタル位相共役波発生装置の開発とその効率、トラッキング能力の評価
- The Guidance System by Analog Visual Light Communication for People with Visual Impairment / アナログ可視光通信による視覚障がい者用ガイダンスシステム
- Constructing the System of Fluorescence Analysis Device Using LED / LEDを用いた蛍光分光システムの構築
- Evaluation about Environmental Cost of Photovoltaic Energy / 太陽光発電の環境負担評価に対する検討と評価
- Fabrication of Thick-film Amorphous Selenium for an Ultra-sensitive X-ray Detector / 超高感度 X 線検出器のためのアモルファスセレン厚膜の作製
- Fabrication of Nitrogen doped diamond cold cathode / 窒素添加ダイヤモンド冷陰極の作製
- Towards development of X-ray Detector using amorphous Selenium and Diamond Cold Cathode / アモルファスセレンとダイヤモンド冷陰極を用いた X 線検出器の開発に向けて
- Field Electron Emission Property of Dimethylurea-doped Diamond / ジメチル尿素添加ダイヤモンドからの電界電子放出特性の評価
- Evaluation about Analyze of Diamond Thin Film by ImageJ / ImageJを用いた画像解析によるダイヤモンド薄膜の評価
- Improvement of the Sensitivity of a Photodetector Using Amorphous Selenium and Nitrogen-doped Diamond
- The Effect of Electrochemical Doping on a-Se Photoconductor
- The positive aspects of a triode vacuum tube made of a-Se flat-panel and a diamond cold cathode that contribute to desining photoconductor devices
- The Effect of Electrochemical Methods on Impurity Distribution in Amorphous Selenium
- Attempt Towards X-ray Detection: New Photodetectors Using Amorphous Selenium and Nitrogen Doped Diamond / アモルファスセレンと窒素添加ダイヤモンドを用いた新型光検出器による X 線の検出に向けて