

Habilitations, Dissertations, Master and Bachelor Theses 2020

Habilitations

Kreckel, H. (2020). Experimental Studies of Fundamental Molecular Reactions and Properties. Habilitation Thesis. Ruprecht-Karls-Universität, Heidelberg.

Dissertations

Almazán Molina, H. (2020, February 5). Evaluation of the Neutron Detection Efficiency in the STEREO Reactor Neutrino Experiment. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Master and Bachelor Theses

Berner, J. M. (2020). Design einer Abschirmspule zur Minimierung äußerer Magnetfeldeinflüsse bei Präzisions-Penningfallen-Experimenten an Helium-3. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.

Habilitations, Dissertations, Master and Bachelor Theses 2021

Habilitations

Rodejohann, W. (2021, October). New Neutrino Interactions in New and Old Experiments. Habilitation Thesis. Ruprecht-Karls-Universität, Heidelberg

Sturm, S. (2021, October). Penning trap experiments for fundamental atomic physics. Habilitation Thesis. Ruprecht-Karls-Universität, Heidelberg.

Dissertations

Bakucz Canário, D. (2021, June 16). Time Delay in Tunnelling Ionization. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Master and Bachelor Theses

Angstenberger, S. (2021). Design of a setup for flexible, dispersion-compensated nonlinear femtosecond laser pulse compression adapted to an extreme ultraviolet frequency comb. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.

Dissertations, Master and Bachelor Theses 2022

Dissertations

Aufleger, L. (2022, February 2). Nonlinear spectroscopy on an autoionizing two-electron resonance in intense, extreme ultraviolet fields at a free-electron laser. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Benso, C. (2022, October 27). Sterile Neutrino Dark Matter in Non-Standard Scenarios. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Breuhäus, M. (2022, July 28). Towards an Understanding of Galactic Ultra-high Energy γ -ray Emission. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Gündüz, D. (2022). Constraining Nelson-Barr Models with Generalized CP Transformations through Decoupling Analysis. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Jörg, F. (2022, June 22). From ^{222}Rn measurements in XENONnT and HeXe to radon mitigation in future-liquid xenon experiments. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Marx, R. (2022, February). Algorithms for Imaging Atmospheric Cherenkov Telescopes. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Rink, T. (2022, February 16). Investigating neutrino physics within and beyond the standard model using Conus experimental data. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Rupprecht, P. (2022, June 8). Ultrafast Laser Control of Molecular Quantum Dynamics from a Core-Electron Perspective. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Sailer, T. (2022, February 16). Direct Bound-Electron-g-Factor Difference Measurement of Coupled Ions at a Paul Trap. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Schneider, A. (2022, July 6). Measurement of the g-factors and zero-field hyperfine splitting of $^3\text{He}^+$ in a Penning trap. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Schütt, M. (2022, October 26). Data Acquisition for Germanium-Detector Arrays. PhD Thesis. Karlsruher Institut für Technologie (KIT), Karlsruhe.

Tame Narvaez, K. M. (2022, July 27). New Physics searches in extended scalar sectors. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Valuev, I. A. (2022, November 23). Microscopic theory of nuclear-structure effects in atomic systems. PhD Thesis. Ruprecht-Karls-Universität, Heidelberg.

Master and Bachelor Theses

Armbruster, S. (2022). Cryogenic ^{222}Rn detector. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.

Barber Belda, P. (2022). Strong-field effects on singly excited vibronic resonances in the hydrogen molecule. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.

Baumann, I. (2022). Spektroskopische Analyse von Aluminiumphthalocyanin-Chlorid in variablen binären Solvaten. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.

Bechtel, J. (2022). Cooling force measurements with the phase shift method at the cryogenic storage ring CSR. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.

Berg, M. (2022). Tomographic reconstruction of photoelectron momentum distribution obtained through Velocity Map Imaging with a 100 MHz laser in a femtosecond enhancement cavity. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.

- Bock, N. (2022). Theoretische Modellierung einer Penning-Falle zur Nutzung sympathetischer Laserkühlung und Charakterisierung einer dafür vorgesehenen Präzisionsspannungsquelle. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Bürkle, E. (2022). Thickness determination of free-standing liquid crystal films via autocorrelation measurements. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Danisch, J. (2022). Search for the O^{4+16} / O^{4+18} isotope shift in the photoionization of Be-like oxygen with monochromatic soft X-ray synchrotron radiation. Bachelor's Thesis.
- Dias Astros, M. I. (2022). CP-Violation in the inert doublet model : Dark Matter and Baryogenesis. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Gaisser, S. K. (2022). Cryogenic MCP detector performance benchmarking at the CSR. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Gräfe, J. F. (2022). Breaking electric charge conservation with charged Higgs vacua. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Gramberg, M. A. (2022). Aufbau und Inbetriebnahme einer Raumtemperatur-Elektronenstrahl-Ionenfalle. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Hammann, R. (2022). Investigation of a Charge Insensitive Volume in XENONnT, Analysis of Goodness-of-Fit Techniques, and Feasibility Studies for an Automated Krypton Assay System. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Hector, R. C. (2022). Characterization of a Xenon-Recycling-System for an Extreme-Ultraviolet Frequency Comb. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Heidrich, S. (2022). Recommissioning of the Hyper-EBIT by measuring x-ray spectra of highly charged ions. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Henninger, R. (2022). Production, transfer and re-trapping of highly charged Ar^{14+} from an electron beam ion trap into a superconducting cryogenic Paul trap. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Herzog, F. S. (2022). PentaSim : a numerical simulation of a Penning Trap. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Himmelsbach, J. (2022). Completion and commissioning of an LVAP ion source. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Jung, M. G. (2022). Entwicklung und Test einer Quelle atomaren Wasserstoffs durch thermische Dissoziation. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Justus, P. (2022). Design einer Mikrowellen-Laser-Einkopplung für simultane Spinflipanregung und Laserkühlung am 3He -Trap-Experiment. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Kaiser, A. V. (2022). Characterization of an ultra-stable voltage supply and implementation of sympathetic lasercooling for the $^3He^{2+}$ g-factor measurement. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Kokh, S. (2022). Pulse Characterization by Frequency-Resolved Optical Gating for Velocity Map Imaging of Xenon. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.

- Lange, D. (2022). Development of the novel transportable onlinemass-spectrometer PILOT-Trap with dynamicbuffer-gas cooling for stored ions. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Lubenau, F. (2022). Dual-comb spectroscopy with free-running frequency combs. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Lutz, M. (2022). Ultrashort Time-Resolved X-ray Diffraction on Liquid Crystals. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Mader, M. (2022). Design and Implementation of a liquid crystal compatible recirculating Flat Jet system. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Nenninger, J. (2022). Analysis of the unexpected variation in the angular photon distribution in $1s - np$ transitions in He-like nitrogen ions. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Oetjens, A. (2022). Planning and Testing the Laser Beam Transfer Line at CSR. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Piotter, M. (2022). Investigation of ^{83}mKr decays and IR scintillation light in the noble gas xenon. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Raab, F. (2022). Designing and Characterization of a Novel Cryogenic Cyclotron Resonator. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Richter, D. (2022). Laser pulse reconstruction in transient absorption spectroscopy using machine-learning regression models. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Stauber, J. (2022). Pulse Shape Discrimination for the CONUS Experiment in the sub-keV Regime. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Straub, M. (2022, February). Multiphoton Ionization of Helium with ExtremeUltraviolet Light at the Free-Electron Laser inHamburg. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Tada, A. M. (2022). Singlet-Assisted Electroweak Baryogenesis in Effective Field Theory and $\text{SO}(6)/\text{SO}(5)$ Composite Higgs Models. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Weber, S. (2022). Quantum Field Theory and Phenomenology in 5D Warped Space-Time: Gauge-Higgs-Grand Unification. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Wehrheim, M. (2022). Characterization of Be^+ and highly charged ion dynamics in a cryogenic Paul trap. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Wupperfeld, N. (2022). Laboratory measurements of K-shell dielectronic recombination satellite lines of $\text{O}6^+$ to $\text{O}4^+$. Bachelor's Thesis. Ruprecht-Karls-Universität, Heidelberg.
- Zou, K. (2022). $0\nu\beta\beta$ Decay in the Minimal Left-Right Symmetric Model. Master's Thesis. Ruprecht-Karls-Universität, Heidelberg.