

“The interplay between atomic and nuclear physics to study exotic nuclei”

ECT* workshop: <http://www.ectstar.eu/node/1224>

Monday August 24th (morning, 08:45) till Thursday August 27th (12:00)

Theoretical Atomic Physics: Few- and Many-Body Systems, Theoretical Quantum Dynamics and Electrodynamics, Laser spectroscopy and related topics

	Time	Speaker	Title
MONDAY			
Registration	8.45-9.45	All	
Welcome	9.45-9.50	Michel GODEFROID	
	9.50-10.00	Wolfram WEISE ECT* Director	Welcome Introduction
	10.00-10.40	Gordon DRAKE	“The beta-decay process of He-6 to form Li-6, and the subsequent excitation and emission processes for the atomic electrons”
	10.40-11.20	Klaus BLAUM	“Precision atomic mass and laser spectroscopy as an ideal combination to answer open questions in nuclear structure physics”
Coffee break	11.20-11.40		
	11.40-12.20	Zong-Chao YAN	“Computational methods for Coulomb four-body systems”
	12.20-13.00	Michiharu WADA	“Laser spectroscopy and mass measurements at RIKEN SLOWRI”
Lunch	13.00-14.30		
	14.30-15.10	Paul INDELICATO	“Nuclear effects in light muonic atoms”
	15.10-15.50	Krzysztof PACHUCKI	“Nuclear polarizability effects in atomic spectra”
Coffee break	15.50-16.20		
	16.20-17.00	Carsten BRANDAU	“Resonant electron-ion collisions as a means to study the interface between electrons and the atomic nucleus”
	17.00-17.40	Vladimir SHABAEV	“Isotope shifts with highly charged ions”
SC1	17.40-18.00	Bernhard MAAB	“A route towards the nuclear charge radius of ${}^8\text{B}$ ”

	Time	Speaker	Title
TUESDAY			
	9.00-9.40	Rodolfo SÁNCHEZ	“Laser Spectroscopy of Highly Charged Heavy Ions at Storage Rings”
	9.40-10.20	Per JÖNSSON	“Multiconfiguration calculations of hyperfine structures and isotope shifts”
SC2	10.20-10.40	Aleksei V. MALYSHEV	“QED calculation of the ground-state energy and the ionization potential of berylliumlike ions”
Coffee break	10.40-11.10		
	11.10-11.50	Magdalena KOWALSKA	“Charge radii of medium-mass nuclei using the atomic physics input”
	11.50-12.30	Jörgen EKMAN	“Extracting information on nuclear charge distributions from isotope shift studies”
SC3	12.30-12.50	Livio FILIPPIN	“Accounting for core-core effects in multiconfiguration calculations of isotope shifts”
Lunch	12.50-14.30		
	14.30-15.10	Jonathan BILLOWES	“Laser spectroscopy measurements of nuclear spins and moments and nuclear structure interpretation of the radioactive isotopes around Z=30 (Zn, Ga, Cu)”
	15.10-15.50	Jacek BIEROŃ	“Ab initio MCDHF calculations of electron-nucleus interactions”
Coffee break	15.50-16.20		
	16.20-17.00	Deyan T. YORDANOV	“Laser Spectroscopy of $^{100-130}\text{Cd}$: Simple Trends in Complex Nuclei”
	17.00-17.40	Klaus WENDT	“In-source laser spectroscopy of exotic nuclei - completing the fundamental atomic data missing”
SC4	17.40-18.00	Jiguang LI	“The reevaluation of isotope shifts in Ca II using the relativistic recoil operators”

	Time	Speaker	Title
WEDNESDAY			
	9.00-9.40	Mikhail KOZLOV	“Theory of the hyperfine structure in polyvalent atoms, including symmetry violating nuclear moments (e.g. anapole and quadrupole)”
	9.40-10.20	Bijaya Kumar SAHOO	“Rigorous estimate of nuclear Schiff moments and the present improved limit on Θ_{QCD} ”
SC5	10.20-10.40	Randolf BEERWERTH	“MCDF level structure and IS calculations for medium and heavy elements”
Coffee break	10.40-11.10		
	11.10-11.50	Peter MUELLER	“Search for the Electric Dipole Moment of ^{225}Ra ”
	11.50-12.30	Adriana PALFFY	“Nuclear and atomic quantum dynamics”
SC6	12.30-12.50	Ruben DE GROOTE	“Laser-atom interactions and high-resolution CRIS”
Lunch	12.50-14.30		
	14.30-15.10	Paul CAMPBELL	“Spectroscopy of exotic nuclei using ion traps.”
	15.10-15.50	Kei MINAMISONO	“Collinear laser spectroscopy on light transition metals at NSCL/MSU”
Coffee break	15.50-16.20		
	16.20-17.00	Yury S. KOZHEDUB	“Many-body non-perturbative relativistic calculation of x-ray emission in low-energy ion-atom collisions”
	17.00-17.40	José Pires MARQUES	“Hyperfine Quenching of Atomic Metastable States”
SC7	17.40-18.00	Anatoly BARZAKH	“In-source laser spectroscopy at ISOLDE”

	Time	Speaker	Title
THURSDAY			
	9.00-9.40	Kieran FLANAGAN	“Collinear resonance ionization spectroscopy of francium from ISOLDE”
	9.40-10.20	Piet VAN DUPPEN	“In-gas jet laser ionization spectroscopy studies in the heavy element region”
SC8	10.20-10.40	Rafael FERRER	“IGLIS of Ac: A quest for the atomic and nuclear structure of heavy elements”
Coffee break	10.40-11.10		
	11.10-11.50	Bradley CHEAL	“Towards Laser Spectroscopy of Super Heavy Elements”
Concluding remarks	11.50-12.00		“Hopes and Perspectives”

POSTERS

Camilo GRANADOS BUITRAGO

“IGLIS laboratory at the KU Leuven”

Xiaofei YANG

“Spins and moments of off-Zn isotopes and isomers measured by collinear laser spectroscopy”

Number of participants

43 participants

- 27 key-note speakers (30 minutes + 10 minutes of discussion)
- 8 short contributions (SC1-SC8) (15 minutes + 5 minutes of discussion)
- 2 posters (P1-P2)
- 2 non-contributing participants : **Daniel BAYE** and **Rainer NEUGART**
- 4 organizers:
Stephan FRITZSCHE, Michel GODEFROID, Gerda NEYENS and **Wilfried NÖRTERSCHÄUSER**