

**KAMPAI - Kaonic,  
Antiprotonic, Muonic, Pionic  
and “onia” exotic Atoms:  
Interchanging knowledge and  
recent results**

**Report of Contributions**

Contribution ID: 1

Type: **not specified**

## Welcome from the organizers

*Monday, September 30, 2024 10:00 AM (15 minutes)*

**Presenter:** SCORDO, Alessandro (Laboratori Nazionali di Frascati INFN)

Contribution ID: 2

Type: **not specified**

## Welcome from ECT\* Director

*Monday, September 30, 2024 10:15 AM (15 minutes)*

**Presenter:** VAN KOLCK, Ubirajara (IJCLab Orsay & University of Arizona)

Contribution ID: 3

Type: **not specified**

## **In memory of Carlo Guaraldo and Johannes Zmeskal**

*Monday, September 30, 2024 10:30 AM (30 minutes)*

**Presenter:** CURCEANU, Catalina (LNF - INFN Frascati)

Contribution ID: 4

Type: **not specified**

## **Probing beneath the surface without a scratch: Utilising negative muons for elemental analysis**

*Monday, September 30, 2024 11:30 AM (30 minutes)*

**Presenter:** HILLIER, Adrian (ISIS Neutron and Muon Facility)

**Session Classification:** Muonic atoms

Contribution ID: 5

Type: **not specified**

## “Precision X-ray Spectroscopy in Muonic Atoms and Molecules”

*Monday, September 30, 2024 12:00 PM (30 minutes)*

**Presenter:** OKADA, Shinji (Chubu University)

**Session Classification:** Muonic atoms

Contribution ID: 6

Type: **not specified**

## In memory of Johannes Zmeskal

*Monday, September 30, 2024 2:00 PM (30 minutes)*

**Presenter:** WIDMANN, Eberhard (Stefan Meyer Institute)

Contribution ID: 7

Type: **not specified**

# Challenges in Improving Measurements of the Hyperfine Structure of Muonic Helium Atoms

*Monday, September 30, 2024 2:30 PM (30 minutes)*

**Presenter:** STRASSER, Patrick (KEK)

**Session Classification:** Muonic atoms



Contribution ID: 8

Type: **not specified**

## Status of theory for heavy muonic atoms

*Monday, September 30, 2024 3:00 PM (30 minutes)*

**Presenter:** ORESHKINA, Natalia S. (MPIK (Heidelberg))

**Session Classification:** Muonic atoms

Contribution ID: 9

Type: **not specified**

## **In-beam hyperfine spectroscopy of antihydrogen, hydrogen, and deuterium for tests of CPT and Lorentz invariance**

*Tuesday, October 1, 2024 10:00 AM (30 minutes)*

**Presenter:** WIDMANN, Eberhard (Stefan Meyer Institute)

**Session Classification:** Multidisciplinary session

Contribution ID: 10

Type: **not specified**

## **CdZnTe-based radiation detectors, a breakthrough for hadron physics experiments**

*Tuesday, October 1, 2024 12:00 PM (30 minutes)*

**Presenter:** ZAPPETTINI, Andrea

**Session Classification:** Detectors and technologies for exotic atoms measurements

Contribution ID: 11

Type: **not specified**

## **Microcalorimeter Sensors for the Study of Exotic Atoms**

*Tuesday, October 1, 2024 11:30 AM (30 minutes)*

**Presenter:** ULLOM, Joel (National Institute of Standards and Technology)

**Session Classification:** Detectors and technologies for exotic atoms measurements

Contribution ID: 12

Type: **not specified**

## **Experimental challenges in study kaon-nucleon interaction at low energy at DAFNE collider**

*Wednesday, October 2, 2024 11:30 AM (30 minutes)*

**Presenter:** SIRGHI, Florin (INFN-LNF)

**Session Classification:** Kaonic Atoms

Contribution ID: 13

Type: **not specified**

## **K<sup>-</sup>-N interaction in nuclear medium and kaonic atoms**

*Wednesday, October 2, 2024 10:30 AM (30 minutes)*

**Presenter:** Dr OBERTOVA, Jaroslava (FNSPE CTU in Prague)

**Session Classification:** Kaonic Atoms

Contribution ID: 14

Type: **not specified**

## **Feasibility study of kaonic lead X-ray measurements with an HPGe detector at DAPHNE**

*Wednesday, October 2, 2024 12:00 PM (30 minutes)*

**Presenter:** BOSNAR, Damir (University of Zagreb, Croatia)

**Session Classification:** Kaonic Atoms

Contribution ID: 15

Type: **not specified**

# **Kaonic Atom Properties and Cascade Models: Exploring Strong Interactions through First-Principles Calculations and Monte Carlo simulations**

*Wednesday, October 2, 2024 2:00 PM (30 minutes)*

**Presenter:** MANTI, Simone

**Session Classification:** Kaonic Atoms



Contribution ID: 16

Type: **not specified**

## **Kaonic atoms measurements: a strange adventure at DAFNE accelerator**

*Wednesday, October 2, 2024 2:30 PM (30 minutes)*

**Presenter:** SIRGHI, Diana (INFN-LNF)

**Session Classification:** Kaonic Atoms

Contribution ID: 17

Type: **not specified**

## **Light and heavy kaonic atoms at DAFNE. From kaon mass to astrophysics.**

*Wednesday, October 2, 2024 3:30 PM (30 minutes)*

**Presenter:** ILIESCU, Mihail Antoniu (INFN-LNF)

**Session Classification:** Kaonic Atoms

Contribution ID: 18

Type: **not specified**

## **Exploring quantum entanglement and decay rates in Positronium atoms in the framework of J-PET detector**

*Tuesday, October 1, 2024 10:30 AM (30 minutes)*

**Presenter:** SHARMA, SUSHIL (Jagiellonian University)

**Session Classification:** Multidisciplinary session

Contribution ID: 19

Type: **not specified**

## **QFT composite model to positronium decays**

*Thursday, October 3, 2024 10:30 AM (30 minutes)*

**Presenter:** PIOTROWSKA, Milena (Jan Kochanowski University)

**Session Classification:** Positronium and J-PET

Contribution ID: 20

Type: **not specified**

## **Discreet Symmetries Investigation in Positronium decays with J-PET facility**

*Thursday, October 3, 2024 11:30 AM (30 minutes)*

**Presenter:** SKURZOK, Magdalena (Jagiellonian University)

**Session Classification:** Positronium and J-PET

Contribution ID: 21

Type: **not specified**

## **Fundamental experiments with Positronium atoms**

*Thursday, October 3, 2024 12:00 PM (30 minutes)*

**Presenter:** BRUSA, Roberto (Department of Physics-UNITN and TIFPA-INFN)

**Session Classification:** Positronium and J-PET

Contribution ID: 22

Type: **not specified**

## **Electromagnetic decays of some 'onia'**

*Thursday, October 3, 2024 4:00 PM (30 minutes)*

**Presenter:** GIACOSA, Francesco (Jan Kochanowski University, Kielce)

**Session Classification:** Multidisciplinary session

Contribution ID: 23

Type: **not specified**

## **Laser spectroscopy of antiprotonic, pionic, and kaonic helium atoms**

*Friday, October 4, 2024 10:30 AM (30 minutes)*

**Presenter:** HORI, Masaki

**Session Classification:** Multidisciplinary session



Contribution ID: 24

Type: **not specified**

## **Radii of Light Mirror Nuclei**

*Friday, October 4, 2024 11:30 AM (30 minutes)*

**Presenter:** OHAYON, Ben (Technion IIT)

**Session Classification:** Multidisciplinary session

Contribution ID: 25

Type: **not specified**

## **Nuclear structure corrections in light muonic atoms**

*Thursday, October 3, 2024 2:30 PM (30 minutes)*

**Presenter:** BACCA, Sonia

**Session Classification:** Muonic atoms

Contribution ID: 26

Type: **not specified**

## **Preliminary results of the Muonium Fine Structure Measurement**

*Thursday, October 3, 2024 3:30 PM (30 minutes)*

**Presenter:** BLUMER, Philipp (ETH Zurich)

**Session Classification:** Multidisciplinary session

Contribution ID: 27

Type: **not specified**

## **Metallic Magnetic Calorimeters for muonic atoms spectroscopy**

*Friday, October 4, 2024 12:00 PM (30 minutes)*

**Presenter:** GASTALDO, Loredana (Universität Heidelberg)

**Session Classification:** Multidisciplinary session

Contribution ID: 28

Type: **not specified**

## **Laser spectroscopy of the ground-state hyperfine splitting in muonic hydrogen**

*Thursday, October 3, 2024 2:00 PM (30 minutes)*

**Presenter:** GRUNDEMAN, Elmer (ETH Zürich)

**Session Classification:** Muonic atoms

Contribution ID: 29

Type: **not specified**

## **Status of kaonic-atom experiments at J-PARC**

*Wednesday, October 2, 2024 4:00 PM (30 minutes)*

**Presenter:** Dr HASHIMOTO, Tadashi (RIKEN)

**Session Classification:** Kaonic Atoms

Contribution ID: 30

Type: **not specified**

## **Prospects from a cold antideuteron beam in AD/ELENA**

*Friday, October 4, 2024 10:00 AM (30 minutes)*

**Presenter:** CARAVITA, Ruggero (CERN)

**Session Classification:** Multidisciplinary session