

**TCP2014**

**Report of Contributions**

TCP2014

/ Report of Contributions

Opening

Contribution ID: 97

Type: **not specified**

## Opening

*Friday, November 28, 2014 9:30 AM (30 minutes)*

Contribution ID: 98

Type: **not specified**

## **Optical sideband cooling of an ion to the ground state of its motion in a Penning trap**

*Friday, November 28, 2014 1:30 PM (1 hour)*

**Presenter:** Dr THOMPSON, Richard

Contribution ID: 99

Type: **not specified**

## **Basics of antimatter science**

*Friday, November 28, 2014 2:30 PM (2 hours)*

**Presenter:** Dr HAYANO, Ryugo

Contribution ID: **100**

Type: **not specified**

## **What (anti-)matters with antimatter?**

*Monday, December 1, 2014 9:30 AM (40 minutes)*

**Presenter:** Prof. YAMAZAKI, Yasunori Yamazaki (RIKEN)

**Session Classification:** session1

Contribution ID: **101**Type: **not specified**

# Two-photon laser spectroscopy of antiprotonic Helium and antiproton-to-electron mass ratio

*Monday, December 1, 2014 10:20 AM (20 minutes)*

**Presenter:** HORI, Masaki (Max Planck Institute for Quantum Optics)

**Session Classification:** session1

Contribution ID: 102

Type: **not specified**

## **Present status of the AEGIS Experiment and prospect for cooling antiprotons.**

*Monday, December 1, 2014 10:45 AM (20 minutes)*

**Presenter:** Dr COMPARAT, daniel (CNRS)

**Session Classification:** session1

Contribution ID: **103**

Type: **not specified**

## **Experiments with highly charged ions at HITRAP**

*Monday, December 1, 2014 12:30 PM (20 minutes)*

**Presenter:** Dr ANDELKOVIC, Zoran (GSI)

**Session Classification:** session1



Contribution ID: 104

Type: **not specified**

## **Deceleration and storage of highly charged ions and antiprotons at GSI/FAIR**

*Monday, December 1, 2014 12:55 PM (20 minutes)*

**Presenter:** Dr HERFURTH, Frank (GSI Helmholtzzentrum mbH)

**Session Classification:** session1

Contribution ID: 105

Type: **not specified**

# **CHIP-TRAP: A high-precision double Penning trap mass spectrometer for stable and long-lived radioactive isotopes**

*Monday, December 1, 2014 1:20 PM (15 minutes)*

**Presenter:** Dr REDSHAW, Matthew (Central Michigan University)

**Session Classification:** session1

Contribution ID: **106**Type: **not specified**

## **Mass measurements of rare isotopes with a single ion**

*Monday, December 1, 2014 1:40 PM (15 minutes)*

**Presenter:** Dr EIBACH, Martin (National Superconducting Cyclotron Laboratory)

**Session Classification:** session1

Contribution ID: **107**

Type: **not specified**

## **Current status of the TAMUTRAP facility**

*Monday, December 1, 2014 2:00 PM (15 minutes)*

**Presenter:** Mr MEHLMAN, Michael (Texas A&M University Cyclotron Institute)

**Session Classification:** session1

Contribution ID: **108**Type: **not specified**

# First direct high-precision measurement of the magnetic moment of the proton and status of BASE

*Monday, December 1, 2014 2:40 PM (20 minutes)*

**Presenter:** Dr ULMER, Stefan (RIKEN, Ulmer IRU)

**Session Classification:** session2

Contribution ID: **109**

Type: **not specified**

## **The GBAR antimatter gravity experiment**

*Monday, December 1, 2014 3:05 PM (20 minutes)*

**Presenter:** Dr PEREZ, Patrice (CEA/Saclay)

**Session Classification:** session2

Contribution ID: 110

Type: **not specified**

## **Antiproton cloud radial compression in the ALPHA apparatus at CERN**

*Monday, December 1, 2014 3:30 PM (15 minutes)*

**Presenter:** Ms GUTIERREZ, Andrea (University of British Columbia and TRIUMF)

**Session Classification:** session2

Contribution ID: 111

Type: **not specified**

# Antihydrogen annihilation vertex detection in the ALPHA experiment

*Monday, December 1, 2014 3:50 PM (15 minutes)*

**Presenter:** Dr PUSA, Petteri (University of Liverpool)

**Session Classification:** session2



Contribution ID: 112

Type: **not specified**

# **A spectroscopy beamline for the hyperfine structure of antihydrogen and its characterization with a Hydrogen beam**

*Monday, December 1, 2014 4:10 PM (15 minutes)*

**Presenter:** Dr SIMON, Martin (Stefan Meyer Institute for subatomic Physics)

**Session Classification:** session2

Contribution ID: 113

Type: **not specified**

## **Beta-decay of highly-charged ions**

*Tuesday, December 2, 2014 8:10 AM (40 minutes)*

**Presenter:** Dr LITVINOV, Yuri (GSI Darmstadt)

**Session Classification:** session1

Contribution ID: 114

Type: **not specified**

## **Precision mass measurements of short-lived nuclides at storage ring in Lanzhou**

*Tuesday, December 2, 2014 9:00 AM (20 minutes)*

**Presenter:** Prof. ZHANG, yuhu (institute of modern physics. chinese academy of sciences, lanzhou 730000 China)

**Session Classification:** session1

Contribution ID: 115

Type: **not specified**

## **Rare-RI ring at RIKEN RI Beam Factory**

*Tuesday, December 2, 2014 9:25 AM (20 minutes)*

**Presenter:** YAMAGUCHI, Yoshitaka (RIKEN Nishina Center)

**Session Classification:** session1

Contribution ID: 116

Type: **not specified**

## **Laser-based tests of fundamental symmetries and interactions at the ESR**

*Tuesday, December 2, 2014 9:50 AM (20 minutes)*

**Presenter:** Prof. NOERTERSHAEUSER, Wilfried (TU Darmstadt)

**Session Classification:** session1

Contribution ID: 117

Type: **not specified**

## **The SCRIT electron scattering facility**

*Tuesday, December 2, 2014 10:15 AM (20 minutes)*

**Presenter:** Dr WAKASUGI, masanori (RIKEN)

**Session Classification:** session1

Contribution ID: 118

Type: **not specified**

# Low energy storage rings for molecular physics

*Tuesday, December 2, 2014 11:00 AM (40 minutes)*

**Presenter:** Prof. SCHMIDT, Henning (Stockholm University)

**Session Classification:** session1

Contribution ID: 119

Type: **not specified**

## **RIKEN's new cryogenic electrostatic ion storage ring for atomic and molecular physics: RICE**

*Tuesday, December 2, 2014 11:50 AM (20 minutes)*

**Presenter:** Prof. AZUMA, Toshiyuki (RIKEN)

**Session Classification:** session1



Contribution ID: 120

Type: **not specified**

## **Rapid cooling of isolated small carbon cluster anions**

*Tuesday, December 2, 2014 12:15 PM (15 minutes)*

**Presenter:** Dr FURUKAWA, Takeshi (Tokyo Metropolitan University)

**Session Classification:** session1

Contribution ID: 121

Type: **not specified**

## **A new approach to the particle position detection in a storage ring**

*Tuesday, December 2, 2014 12:35 PM (15 minutes)*

**Presenter:** CHEN, Xiangcheng (GSI)

**Session Classification:** session1

Contribution ID: 122

Type: **not specified**

## **Overview on MRTOF mass spectrometry**

*Tuesday, December 2, 2014 2:30 PM (40 minutes)*

**Presenter:** Prof. WOLLNIK, Hermann

**Session Classification:** session2

Contribution ID: 123

Type: **not specified**

## **First direct mass measurements with the MR-TOF-MS at the FRS ion catcher**

*Tuesday, December 2, 2014 3:20 PM (20 minutes)*

**Presenter:** Dr PLASS, Wolfgang (GSI Helmholtzzentrum für Schwerionenforschung)

**Session Classification:** session2

Contribution ID: 124

Type: **not specified**

## **Multi-reflection time-of-flight mass separation and spectrometry at ISOLTRAP/ISOLDE**

*Tuesday, December 2, 2014 3:45 PM (20 minutes)*

**Presenter:** Mr WOLF, Robert (University of Greifswald, Germany)

**Session Classification:** session2

Contribution ID: 125

Type: **not specified**

# High-precision mass measurements of trans-Uranium nuclei by MRTOF-MS: shifting the paradigm in SHE-identification

*Tuesday, December 2, 2014 4:30 PM (20 minutes)*

**Presenter:** Dr SCHURY, Peter (Tsukuba University)

**Session Classification:** session2

Contribution ID: 126

Type: **not specified**

## **Polyanion production in Penning and RFQ ion traps**

*Tuesday, December 2, 2014 4:55 PM (15 minutes)*

**Presenter:** Prof. SCHWEIKHARD, Lutz (Inst. f. Physik, Univ. of Greifswald)

**Session Classification:** session2

Contribution ID: 127

Type: **not specified**

## The MR-TOF isobar separator for the TITAN facility at TRIUMF

*Tuesday, December 2, 2014 5:15 PM (15 minutes)*

**Presenter:** DICKEL, Timo (GSI Helmholtzzentrum für Schwerionenforschung)

**Session Classification:** session2



Contribution ID: 128

Type: **not specified**

## **muon's g-2 experiment at J-PARC**

*Tuesday, December 2, 2014 5:35 PM (20 minutes)*

**Presenter:** Dr SAITO, Naohito

**Session Classification:** session1

Contribution ID: 129

Type: **not specified**

## **Measuring the electron's electric dipole moment in a trapped molecular ion.**

*Wednesday, December 3, 2014 8:30 AM (40 minutes)*

**Presenter:** Dr CORNELL, Eric

**Session Classification:** session1

Contribution ID: 130

Type: **not specified**

## Quantum state preparation of single molecular ions

*Wednesday, December 3, 2014 9:20 AM (25 minutes)*

**Presenter:** Dr DREWSON, Michael

**Session Classification:** session1

Contribution ID: 131

Type: **not specified**

## **The ASACUSA CUSP experiment**

*Wednesday, December 3, 2014 9:50 AM (25 minutes)*

**Presenter:** Dr KURODA, Naofumi (University of Tokyo)

**Session Classification:** session1

Contribution ID: 132

Type: **not specified**

## **Sensitive detection of modes and quantum simulation with 2D arrays of trapped ions**

*Wednesday, December 3, 2014 10:50 AM (25 minutes)*

**Presenter:** Dr BOLLINGER, John

**Session Classification:** session1

Contribution ID: 133

Type: **not specified**

# Fundamental physics with the ALPHA antihydrogen trap

*Wednesday, December 3, 2014 11:20 AM (25 minutes)*

**Presenter:** Dr FUJIWARA, Makoto (TRIUMF)

**Session Classification:** session1

Contribution ID: 134

Type: **not specified**

## A new hydrogenic atom, e+H

*Wednesday, December 3, 2014 11:50 AM (30 minutes)*

**Presenter:** Prof. STORRY, Cody (York University)

**Session Classification:** session1

Contribution ID: 135

Type: **not specified**

## **The high precision mass spectrometer-SMILETRAP meets an EBIT in Shanghai**

*Thursday, December 4, 2014 8:10 AM (20 minutes)*

**Presenter:** Dr YAO, Ke (Modern Physics Institute, Fudan University)

**Session Classification:** session1



Contribution ID: 136

Type: **not specified**

## **Spectroscopic studies of highly charged ions at the Tokyo electron beam ion trap facility**

*Thursday, December 4, 2014 8:35 AM (20 minutes)*

**Presenter:** Dr NAKAMURA, Nobuyuki (The University of Electro-Communications)

**Session Classification:** session1

Contribution ID: 137

Type: **not specified**

## Coulomb-crystalized highly charged ions

*Thursday, December 4, 2014 9:00 AM (20 minutes)*

**Presenter:** Dr VERSOLATO, Oscar (ARCNL)

**Session Classification:** session1

Contribution ID: 138

Type: **not specified**

## **Using GPU parallelization to perform realistic simulations of the LPCTrap experiments : from a trapped ion cloud to a time-of-flight measurement.**

*Thursday, December 4, 2014 9:25 AM (15 minutes)*

**Presenter:** Mr FABIAN, Xavier (LPC Caen)

**Session Classification:** session1

Contribution ID: 139

Type: **not specified**

## Status of the ReA Electron Beam Ion Trap Charge Breeder at NSCL

*Thursday, December 4, 2014 9:45 AM (15 minutes)*

**Presenter:** Dr BAUMANN, Thomas (National Superconducting Cyclotron Laboratory)

**Session Classification:** session1

Contribution ID: 140

Type: **not specified**

## **Dynamical effects in the X-ray transition strengths of astrophysically relevant Fe16+ ions**

*Thursday, December 4, 2014 10:05 AM (15 minutes)*

**Presenter:** Dr ORESHKINA, Natalia (MPIK)

**Session Classification:** session1

Contribution ID: 141

Type: **not specified**

## **High-resolution intensity ratio measurements in EUV spectral wavelength for ions of astrophysical interest**

*Thursday, December 4, 2014 10:25 AM (15 minutes)*

**Presenter:** Dr SAFDAR, Ali (UEC, Tokyo)

**Session Classification:** session1

Contribution ID: 142

Type: **not specified**

## **Parity violation measurements in trapped single radium ions**

*Thursday, December 4, 2014 11:05 AM (20 minutes)*

**Presenter:** Dr WILLMANN, Lorenz

**Session Classification:** session2

Contribution ID: 143

Type: **not specified**

## **Ba-ion extraction from high-pressure Xe gas for double-beta decay studies with nEXO**

*Thursday, December 4, 2014 11:30 AM (20 minutes)*

**Presenter:** Dr BRUNNER, Thomas (Stanford University)

**Session Classification:** session2



Contribution ID: 144

Type: **not specified**

## **Fundamental physics with highly charged ions at low energies**

*Thursday, December 4, 2014 11:55 AM (20 minutes)*

**Presenter:** Prof. SHABAEV, Vladimir (St.Petersburg State University)

**Session Classification:** session2

Contribution ID: 145

Type: **not specified**

## **Magneto-optical trapping of radioactive atoms for test of the fundamental symmetries**

*Thursday, December 4, 2014 12:20 PM (15 minutes)*

**Presenter:** KAWAMURA, Hirokazu (Tohoku University)

**Session Classification:** session2

Contribution ID: 146

Type: **not specified**

## **BASE - High-precision tests of CPT invariance using antiprotons**

*Thursday, December 4, 2014 12:40 PM (15 minutes)*

**Presenter:** Dr SMORRA, Christian (CERN)

**Session Classification:** session2

Contribution ID: 147

Type: **not specified**

## **muon's g-2 experiment at Fermi-lab.**

*Thursday, December 4, 2014 1:00 PM (20 minutes)*

**Presenter:** Dr CHUPP, Tim

**Session Classification:** session2

Contribution ID: 148

Type: **not specified**

# Scalable quantum information processing with trapped ions at NIST

*Thursday, December 4, 2014 2:30 PM (40 minutes)*

**Presenter:** Dr LEIBFRIED, Dietrich (NIST Boulder, CO USA)

**Session Classification:** session3

Contribution ID: 149

Type: **not specified**

# **Engineering and observation of interacting quasiparticles in a trapped-ion many-body system**

*Thursday, December 4, 2014 3:20 PM (20 minutes)*

**Presenter:** Mr ROOS, Christian (IQOQI Innsbruck)

**Session Classification:** session3

Contribution ID: 150

Type: **not specified**

## **Development of the quantum repeater based on trapped ions**

*Thursday, December 4, 2014 3:45 PM (20 minutes)*

**Presenter:** Dr KIM, Taehyun

**Session Classification:** session3

Contribution ID: 151

Type: **not specified**

## **The g-factor of highly charged ions – Stress test for the Standard Model and access to the mass of the electron**

*Thursday, December 4, 2014 4:30 PM (20 minutes)*

**Presenter:** Dr STURM, Sven

**Session Classification:** session1



Contribution ID: 152

Type: **not specified**

## **PI-ICR technique for mass measurements on short-lived nuclides and the PENTATRAP project**

*Thursday, December 4, 2014 4:55 PM (20 minutes)*

**Presenter:** Dr ELISEEV, Sergey (Max-Planck-Institut für Kernphysik)

**Session Classification:** session1

Contribution ID: 153

Type: **not specified**

## **Highly charged ions for atomic clocks and search for variation of the fine structure constant**

*Thursday, December 4, 2014 5:20 PM (20 minutes)*

**Presenter:** DZUBA, Vladimir (School of Physics, University of New South Wales)

**Session Classification:** session1

Contribution ID: 154

Type: **not specified**

# **Laser spectroscopy of atoms in superfluid helium for the measurement of nuclear spins and electromagnetic moments of radioisotope atoms**

*Thursday, December 4, 2014 5:45 PM (20 minutes)*

**Presenter:** Ms FUJITA, Tomomi (Dept. of Physics, Osaka University)

**Session Classification:** session1

Contribution ID: 155

Type: **not specified**

# Quantum simulation of the Jaynes-Cummings-Hubbard Model using trapped ions

*Friday, December 5, 2014 8:10 AM (20 minutes)*

**Presenter:** Dr TOYODA, Kenji (Osaka university, Japan)

**Session Classification:** session1

Contribution ID: 156

Type: **not specified**

## **Extreme field physics in Penning traps**

*Friday, December 5, 2014 8:35 AM (15 minutes)*

**Presenter:** Dr VOGEL, Manuel (GSI)

**Session Classification:** session1

Contribution ID: 157

Type: **not specified**

## Quadratic Zeeman effect in highly charged ions

*Friday, December 5, 2014 8:55 AM (15 minutes)*

**Presenter:** Dr GLAZOV, Dmitry (Saint-Petersburg State University)

**Session Classification:** session1

Contribution ID: 158

Type: **not specified**

# Precision $\beta$ -decay experiments with the $\beta$ -decay Paul Trap

*Friday, December 5, 2014 9:15 AM (20 minutes)*

**Presenter:** Dr STERNBERG, Matthew (University of Washington)

**Session Classification:** session10

Contribution ID: 159

Type: **not specified**

## Precision measurements with LPCTrap at GANIL

*Friday, December 5, 2014 9:40 AM (20 minutes)*

**Presenter:** Prof. LIENARD, Etienne (LPC Caen)

**Session Classification:** session10



Contribution ID: 160

Type: **not specified**

## **A new correlation Penning trap for fundamental physics at Texas A&M**

*Friday, December 5, 2014 10:25 AM (20 minutes)*

**Presenter:** Prof. MELCONIAN, Dan (Texas A&M University)

**Session Classification:** session10

Contribution ID: 161

Type: **not specified**

# **Ion trap and laser cooling spectroscopy for isotope analysis**

*Friday, December 5, 2014 10:50 AM (15 minutes)*

**Presenter:** Dr HASEGAWA, Shuichi (University of Tokyo)

**Session Classification:** session10

Contribution ID: 162

Type: **not specified**

## **Gas-cell beam cooler-buncher for low-energy experiments at SLOWRI**

*Friday, December 5, 2014 11:10 AM (15 minutes)*

**Presenter:** Dr ITO, Yuta (SLOWRI Team, Nishina Accelerator-Based Research Center, RIKEN)

**Session Classification:** session10

Contribution ID: 163

Type: **not specified**

## Probing exotic nuclei through mass measurements from ISOLTRAP

*Friday, December 5, 2014 11:50 AM (20 minutes)*

**Presenter:** Mrs KREIM, Susanne (CERN Switzerland)

**Session Classification:** session3

Contribution ID: **164**

Type: **not specified**

## **TITAN: The ion trapping program at TRIUMF**

*Friday, December 5, 2014 1:40 PM (20 minutes)*

**Presenter:** Dr KWIATKOWSKI, Ania (TRIUMF)

**Session Classification:** session3

Contribution ID: 165

Type: **not specified**

## **Penning trap mass spectrometry at the LEBIT facility**

*Friday, December 5, 2014 11:25 AM (20 minutes)*

**Presenter:** Dr RINGLE, Ryan (NSCL)

**Session Classification:** session3

Contribution ID: 166

Type: **not specified**

## **The Canadian Penning trap mass spectrometer at CARIBU**

*Friday, December 5, 2014 2:05 PM (20 minutes)*

**Presenter:** CLARK, Jason (Argonne National Laboratory)

**Session Classification:** session3

Contribution ID: 167

Type: **not specified**

## **On-going developments and measurements at JYFLTRAP**

*Friday, December 5, 2014 2:45 PM (20 minutes)*

**Presenter:** Dr ERONEN, Tommi (University of Jyväskylä)

**Session Classification:** session3



Contribution ID: **168**

Type: **not specified**

## **Recent developments for investigations of the heaviest elements with SHIPTRAP**

*Friday, December 5, 2014 3:10 PM (20 minutes)*

**Presenter:** BLOCK, Michael (GSI)

**Session Classification:** session3

Contribution ID: 169

Type: **not specified**

# High-precision Penning-trap mass measurements at TRIGA-TRAP

*Friday, December 5, 2014 1:15 PM (20 minutes)*

**Presenter:** Dr NAGY, Szilard (Max-Planck-Institute für Kernphysik)

**Session Classification:** session3