

# **STRANEX: Recent progress and perspectives in STRANge EXotic atoms studies and related topics**



## **Report of Contributions**

Contribution ID: **1**

Type: **not specified**

**test**

**Session Classification:** T.B.A.

Contribution ID: 2

Type: **not specified**

## Registration

*Monday 21 October 2019 09:00 (45 minutes)*

Contribution ID: **3**

Type: **not specified**

## Welcome

*Monday 21 October 2019 09:45 (30 minutes)*

Contribution ID: 4

Type: **not specified**

## **Single- and two-nucleon antikaon absorption in nuclear matter with chiral meson-baryon interactions**

*Monday 21 October 2019 10:15 (30 minutes)*

Chair: Jiri Mares

10:15 –10:45 Jaroslava Hrtankova: Single- and two-nucleon antikaon absorption in nuclear matter with chiral meson-baryon interactions

**Presenter:** HRTANKOVA, Jaroslava (NPI Rez)

Contribution ID: 5

Type: **not specified**

## **P- and D-wave relevance on meson-baryon interaction in $S=-1$ sector**

*Monday 21 October 2019 11:15 (30 minutes)*

Chair: Jiri Mares

11:15 –11:45 Albert Feijoo Aliau: P- and D-wave relevance on meson-baryon interaction in  $S=-1$  sector

**Author:** Dr FEIJOO ALIAU, Albert (Nuclear Physics Institute Of The Czech Academy Of Science)

**Presenter:** Dr FEIJOO ALIAU, Albert (Nuclear Physics Institute Of The Czech Academy Of Science)

Contribution ID: 6

Type: **not specified**

## **Investigation of the low-energy $K^-$ hadronic interaction with nucleons by AMADEUS**

*Monday 21 October 2019 11:45 (30 minutes)*

Chair: Jiri Mares

11:45 –12:15 Raffaele Del Grande: Investigation of the low-energy  $K^-$  hadronic interaction with nucleons by AMADEUS

**Presenter:** Dr DEL GRANDE, Raffaele (INFN-LNF)

Contribution ID: 7

Type: **not specified**

## **Impact of chiral symmetry constraints on the pole content of the antikaon-nucleon scattering amplitude**

*Monday 21 October 2019 12:15 (30 minutes)*

Chair: Jiri Mares

12:15 –12:45 Peter Christian Bruns: Impact of chiral symmetry constraints on the pole content of the antikaon-nucleon scattering amplitude

**Presenter:** Dr BRUNS, Peter Christian (Nuclear Physics Institute Of The Czech Academy Of Sciences)

Contribution ID: 8

Type: **not specified**

## **etaN and eta'N treatment within meson-baryon coupled channels approach**

*Monday 21 October 2019 14:30 (30 minutes)*

Chair: Angels Ramos

14:30 - 15:00 Ales Cieply: etaN and eta'N treatment within meson-baryon coupled channels approach

**Author:** Dr CIEPLY, Ales (Nuclear Physics Institute, Czech Academy Of Sciences)

**Presenter:** Dr CIEPLY, Ales (Nuclear Physics Institute, Czech Academy Of Sciences)

Contribution ID: 9

Type: **not specified**

## **Search for eta-mesic helium with WASA-at-COSY facility**

*Monday 21 October 2019 15:00 (30 minutes)*

Chair: Angels Ramos

15:00 –15:30 Magdalena Skurzok: Search for eta-mesic helium with WASA-at-COSY facility

**Presenter:** Dr SKURZOK, Magdalena (LNF-INFN)

Contribution ID: **10**

Type: **not specified**

## **Search for eta-mesic $^3\text{He}$ in $\text{pd} \rightarrow \text{dpp}\pi^0$ reaction using WASA-at-COSY detector**

*Monday 21 October 2019 16:00 (30 minutes)*

Chair: Angels Ramos

16:00 –16:30 Aleksander Khreptak: Search for eta-mesic  $^3\text{He}$  in  $\text{pd} \rightarrow \text{dpp}\pi^0$  reaction using WASA-at-COSY detector

**Author:** Mr KHREPTAK, Aleksander (Jagiellonian University In Kraków)

**Presenter:** Mr KHREPTAK, Aleksander (Jagiellonian University In Kraków)

Contribution ID: **11**

Type: **not specified**

## **Search for a Stable Six-Quark State at BABAR**

*Monday 21 October 2019 16:30 (30 minutes)*

Chair: Angels Ramos 16:30 –17:00 Alessandra Filippi: Search for a Stable Six-Quark State at BABAR

**Author:** Dr FILIPPI, Alessandra (INFN Torino)

**Presenter:** Dr FILIPPI, Alessandra (INFN Torino)

Contribution ID: 12

Type: **not specified**

## **A novel and peculiar quantum system —K-meson and two protons bound state**

*Tuesday 22 October 2019 09:45 (30 minutes)*

Chair: Johann Zmeskal

9:45 –10:15 Masahiko Iwasaki: A novel and peculiar quantum system —K-meson and two protons  
bound state

**Author:** Prof. IWASAKI, Masahiko (RIKEN)

**Presenter:** Prof. IWASAKI, Masahiko (RIKEN)

Contribution ID: **13**

Type: **not specified**

## Hypertriton Lifetime Puzzle

*Tuesday 22 October 2019 10:15 (30 minutes)*

Chair: Johann Zmeskal

10:15 –10:45 Avraham Gal: Hypertriton Lifetime Puzzle

**Presenter:** Prof. GAL, Avraham (Racah Institute Of Physics, The Hebrew University Of Jerusalem  
)

Contribution ID: **14**

Type: **not specified**

## **Possible Modification of a Hyperon in Hypernuclei**

*Tuesday 22 October 2019 11:15 (30 minutes)*

Chair: Johann Zmeskal

11:15 –11:45 Hirokazu Tamura: Possible Modification of a Hyperon in Hypernuclei

**Presenter:** Prof. TAMURA, Hirokazu (Department Of Physics, Tohoku University)

Contribution ID: 15

Type: **not specified**

## The onset of $\Lambda\Lambda$ hypernuclear binding

*Tuesday 22 October 2019 11:45 (30 minutes)*

Chair: Johann Zmeskal

11:45 –12:15 Martin Schafer: The onset of  $\Lambda\Lambda$  hypernuclear binding

**Presenter:** Mr SCHÄFER, Martin ( Nuclear Physics Institute, Academy Of Sciences Of Czech Republic)

Contribution ID: **16**

Type: **not specified**

## **Interplay between $\Delta$ Particles and Hyperons in Neutron Stars**

*Tuesday 22 October 2019 12:15 (30 minutes)*

Chair: Johann Zmeskal

12:15 –12:45 Angels Ramos: Interplay between  $\Delta$  Particles and Hyperons in Neutron Stars

**Presenter:** Prof. RAMOS, Angels (University Of Barcelona)

Contribution ID: 17

Type: **not specified**

## **Impact of chiral hyperonic three-body forces on neutron stars**

*Tuesday 22 October 2019 14:30 (30 minutes)*

Chair: Alessandro Scordo  
Isaac Vidaña (INFN, Catania)  
on behalf of  
Domenico Logoteta (University of Pisa)

**Presenter:** ON BEHALF OF DOMENICO LOGOTETA (UNIVERSITY OF PISA), Isaac Vidaña ( INFN, Catania)

Contribution ID: **18**

Type: **not specified**

## **Lambda-nuclear three-body forces and hyperon puzzle in neutron stars**

*Tuesday 22 October 2019 15:00 (30 minutes)*

Chair: Alessandro Scordo

15:00 –15:30 Wolfram Weise: Lambda-nuclear three-body forces and hyperon puzzle in neutron stars

**Presenter:** Prof. WEISE, Wolfram (Technical University Of Munich)

Contribution ID: **19**

Type: **not specified**

## **Recent HADES results on hyperon propagation in matter and phi in-medium properties**

*Tuesday 22 October 2019 16:00 (30 minutes)*

Chair: Alessandro Scordo

16:00 –16:30 Laura Fabbietti: Recent HADES results on hyperon propagation in matter and phi in-medium properties

**Presenter:** Prof. FABBIIETTI, Laura (Technische Universität München)

Contribution ID: 20

Type: **not specified**

## **Study of the Lambda-Lambda, Proton - Xi and Proton-Lambda final state interactions with the femtoscopy method at ALICE**

*Tuesday 22 October 2019 16:30 (30 minutes)*

Chair: Alessandro Scordo

16:30 –17:00 Bernhard Hohlweger: Study of the Lambda-Lambda, Proton - Xi and Proton-Lambda final state interactions with the femtoscopy method at ALICE

**Presenter:** Mr HOHLWEGER, Bernhard (Technische Universität München)

Contribution ID: 21

Type: **not specified**

## **Lambda(1405)pn final state in the $K^- + ^3\text{He}$ reaction**

*Tuesday 22 October 2019 17:00 (30 minutes)*

Chair: Alessandro Scordo

17:00 –17:30 Fuminori Sakuma: Lambda(1405)pn final state in the  $K^- + ^3\text{He}$  reaction

**Presenter:** Dr SAKUMA, Fuminori (RIKEN)

Contribution ID: 22

Type: **not specified**

## **Proton-Kaon and proton-Omega interactions: bound states and coupled channels**

*Wednesday 23 October 2019 09:45 (30 minutes)*

Chair: Laura Fabbietti

9:45 –10:15 Oton Vazquez Doce: Proton-Kaon and proton-Omega interactions: bound states and coupled channels

**Presenter:** Dr VAZQUEZ DOCE, Oton (TU-Munich)

Contribution ID: **23**

Type: **not specified**

## **Charmed nuclei within a microscopic many-body approach**

*Wednesday 23 October 2019 10:15 (30 minutes)*

Chair: Laura Fabbietti

10:15 –10:45 Isaac Vidaña: Charmed nuclei within a microscopic many-body approach

**Presenter:** Dr VIDANA, Isaac (INFN)

Contribution ID: 24

Type: **not specified**

## Search for Phi meson bound nucleus at J-PARC

*Wednesday 23 October 2019 11:15 (30 minutes)*

Chair: Laura Fabbietti

11:15 –11:45 Hiroaki Ohnishi: Search for Phi meson bound nucleus at J-PARC

**Presenter:** Prof. OHNISHI, Hiroaki (ELPH, Tohoku University)

Contribution ID: 25

Type: **not specified**

## **Kaonic atom experiments at J-PARC**

*Wednesday 23 October 2019 11:45 (30 minutes)*

Chair: Laura Fabbietti

11:45 –12:15 Tadashi Hashimoto: Kaonic atom experiments at J-PARC

**Presenter:** Dr TADASHI, Hashimoto (RIKEN)

Contribution ID: 26

Type: **not specified**

## **The physics of kaonic atoms in the last 20 years**

*Thursday 24 October 2019 09:45 (30 minutes)*

Chair: Catalina Curceanu

9:45 –10:15 Diana Sirghi: The physics of kaonic atoms in the last 20 years

**Presenter:** Dr SIRGHI, Diana

Contribution ID: 27

Type: **not specified**

## **SIDDHARTA-2 experiment at DAFNE collider**

*Thursday 24 October 2019 10:15 (30 minutes)*

Chair: Catalina Curceanu

10:15 –10:45 Florin Sirghi: SIDDHARTA-2 experiment at DAFNE collider

**Presenter:** Dr FLORIN, Sirghi

Contribution ID: **28**

Type: **not specified**

## **Monte-Carlo Methods in Optical Model Analysis of Kaonic Atoms**

*Thursday 24 October 2019 11:15 (30 minutes)*

Chair: Catalina Curceanu

11:15 –11:45 Eliahu Friedman: Monte-Carlo Methods in Optical Model Analysis of Kaonic Atoms

**Presenter:** Prof. FRIEDMAN, Eliahu

Contribution ID: 29

Type: **not specified**

## Advantages of "upper" orbitals in hadronic atoms

*Thursday 24 October 2019 11:45 (30 minutes)*

Chair: Catalina Curceanu

11:45 –12:15 Slawomir Wycech: Advantages of "upper" orbitals in hadronic atoms

**Presenter:** Prof. SLAWOMIR, Wycech

Contribution ID: **30**

Type: **not specified**

## Heavy $\Xi^-$ atoms at PANDA

*Thursday 24 October 2019 12:15 (30 minutes)*

Chair: Catalina Curceanu

12:15 –12:45 Marcel Steinen: Heavy  $\Xi^-$  atoms at PANDA

**Presenter:** Mr STEINEN, Marcel

Contribution ID: 31

Type: **not specified**

## **Status of X-ray spectroscopy of Xi- atom (J-PARC E03)**

*Thursday 24 October 2019 14:30 (30 minutes)*

Chair: Alessandra Filippi

14:30 –15:00 Takeshi O. Yamamoto: Status of X-ray spectroscopy of Xi- atom (J-PARC E03)

**Presenter:** Dr YAMAMOTO, Takeshi O.

Contribution ID: 32

Type: **not specified**

## **X and gamma ray precision measurements for fundamental physics and radioprotecion**

*Thursday 24 October 2019 15:00 (30 minutes)*

Chair: Alessandra Filippi

15:00–15:30 Alessandro Scordo: X and gamma ray precision measurements for fundamental physics  
and radioprotecion

**Presenter:** Dr SCORDO, Alessandro

Contribution ID: 33

Type: **not specified**

## **Silicon Drift Detectors for Kaonic atoms spectroscopy at DAFNE, SIDDHARTA-2 experiment**

*Thursday 24 October 2019 16:00 (30 minutes)*

Chair: Alessandra Filippi

16:00 –16:30 Marco Miliucci: Silicon Drift Detectors for Kaonic atoms spectroscopy at DAFNE, SIDDHARTA-2 experiment

**Presenter:** Prof. MILIUCCI, Marco

Contribution ID: **34**

Type: **not specified**

## **Characterisation of SDDs for SIDDHARTHA and J-PARC**

*Thursday 24 October 2019 16:30 (30 minutes)*

Chair: Alessandra Filippi

16:30 –17:00 Barbara Reingruber: Characterisation of SDDs for SIDDHARTHA and J-PARC

**Presenter:** Ms REINGRUBER, Barbara

Contribution ID: 35

Type: **not specified**

## **The Veto System for Kaonic Deuterium X-Ray Measurements at DAFNE**

*Friday 25 October 2019 09:45 (30 minutes)*

Chair: Slawomir Wycech

9:45 –10:15 Marlene Tuechler: The Veto System for Kaonic Deuterium X-Ray Measurements at DAFNE

**Presenter:** Ms TÜCHLER, Marlene

Contribution ID: **36**

Type: **not specified**

## **ALICE Fast Interaction Trigger: Comparison of Fine Mesh PMs and SiPMs**

*Friday 25 October 2019 10:15 (30 minutes)*

Chair: Slawomir Wycech

10:15 –10:45 Sigrid Scherl: ALICE Fast Interaction Trigger: Comparison of Fine Mesh PMs and SiPMs

**Presenter:** Ms SCHERL, Sigrid

Contribution ID: 37

Type: **not specified**

## **Massive hadronic candidates for dark matter**

*Friday 25 October 2019 11:15 (30 minutes)*

**Presenter:** Prof. MERAFINA, Marco

Contribution ID: **38**

Type: **not specified**

## **Studies of discrete symmetries with the J-PET detector**

*Friday 25 October 2019 11:45 (30 minutes)*

**Presenter:** Mr KHREPTAK, Krzysztof

Contribution ID: 39

Type: **not specified**

# **Gravity, entanglement and CPT violation in particle mixing**

*Friday 25 October 2019 12:15 (30 minutes)*

**Presenter:** Dr SIMONOV, Kyrilo