

Strangeness in the Universe?
Theoretical and experimental progress and challenges

ECT*, Trento
21 – 25 October 2013

Organizers:

Catalina Curceanu
Carlo Guaraldo
Jiri Mares
Johann Marton
Johann Zmeskal

Scientific program

Monday, 21 October:

9:00 – 9.30 Registration
9:30 – 9:50 Welcome (Catalina)

Chair: Johann Marton

9:50 – 10:20 Friedman, Motivation for and feasibility study of new kaonic atoms experiments
10:20 – 10:50 Haidenbauer, The \bar{K} -N interaction and the reaction $K^- n \rightarrow \pi^- \Sigma^0 n$

10:50 – 11:20 Coffee Break

11:20 – 11:50 Gazda, No-core shell model for nuclear systems with strangeness
11:50 – 12:20 Pochodzalla, Prospects for Antihyperons in Nuclei at FAIR
12:20 – 12:50 Akaishi, On the two analyses of HADES data

12:50 – 14:30 LUNCH

Chair: Avraham Gal

14:30 - 15:00 Hiesmayr, Strangeness, Entanglement, CP Violation and John Bell
15:00 – 15:30 Marcello, Searches of Deeply Bound Kaon States in the $\epsilon(nS)$ ($n=1,2,3$)

15:30 – 16:00 Coffee break

16:00 – 16:30 Tamura, Hypernuclear Experiments and the Neutron Star Matter
16:30 – 17:00 Weise, Strange baryonic matter and new constraints from neutron stars

Tuesday, 22 October

Chair: Catalina Curceanu

9:00 – 9:30 Maggiora, Experimental review of DISTO Kpp data

9:30 – 10:00 Silarski, Studies of the near threshold KplusKminus pairs production in the proton-proton collisions

10:00 – 10:30 Gal, Neutron-rich Lambda hypernuclei beyond Lambda-6H

10:30 – 11:00 Coffee break

11:00 – 11:30 Iwasaki, t.b.a

11:30 – 12:00 Quaglia, New Development of SDD-based X-Ray Detectors for the SIDDHARTA-2 Experiment

12:00 – 12:30 Cieply, Chirally motivated etaN coupled channels dynamics

12:30 – 13:00 Mares, Calculations of eta nuclear bound states

13:00 – 14:30 LUNCH

Chair: Stefano Piano

14:30 – 15:30 ECT* Colloquium: Vidana, Hyperons, quarks and neutron stars

15:30 – 16:00 Piscicchia, Investigation of the low-energy kaon-nuclei hadronic interactions at DAFNE by AMADEUS

16:00 – 16:30 Coffee break

Free afternoon

Wednesday, 23 October – Special event:

“Paul Kienle’s Scientific Heritage”

Special Symposium at the ECT* Workshop:

Strangeness in the Universe? Theoretical and Experimental Progress and Challenges

Trento, Italy, October 21-25, 2013

Morning Session:

09:00 Paul Kienle - brief history of a passionate life, *Walter Kutschera*

09:35 The Early Days: Munich – Darmstadt – Munich, *Walter Henning*

10:10 Munich Tandem: Nuclear structure, Lamb-shift measurement, ground-state proton emission, *Thomas Faestermann*

10:45 Coffee break

11:15 Magnetic absorption and X-ray microscopy, *Gisela Schütz*

11:50 The experimental storage ring ESR: A beautiful gift of Paul to physics, *Yuri Litvinov*

12:25 Lunch break

Afternoon Session:

14:00 Paul Kienle as an enthusiastic lover of Nambu-Goldstone bosons, pions and kaons, in nuclei, *Toshimitsu Yamazaki*

14:35 Paul Kienle and antiprotons, *Johann Marton*

15:10 Coffee break

15:40 A musical contribution, *Walter Kutschera*

16:00 From kaonic atom to kaonic nuclear system, *Masahiko Iwasaki*

16:35 Epilogue, *Wolfram Weise*

SOCIAL DINNER, 20.00

Thursday, 24 October

Chair: Eli Friedman

9:00-9:30 Sato, Search for kaonic nuclear states by in-flight Kminus reaction on ^3He at J-PARC

9:30 – 10:00 Sirghi, Kaonic ^4He and ^4He measurements at DAFNE

10:00 – 10:30 Kutschera, Experimental searches for strange matter in nature with mass spectrometry

10:30 – 11:00 Coffee break

11:00 – 11:30 Filippi, Study of the Sigma-p emission in kaon induced reactions on p-shell nuclei

11:30 – 12:00 Seth, How strange are the hyperons? What do the form factors tell us?

12:00 – 12:30 Okada, High-precision spectroscopy of kaonic-atom X-rays with TES microcalorimeters

12:30 – 14:30 LUNCH

Chair: Alessandra Filippi

14:30 – 15:00 Cargnelli, Feasibility of kaonic deuterium experiments at DAFNE and J-PARC

15:00 – 15:30 Yamazaki, Experimental prospects toward multi-kaonic nuclear systems

15:30 – 16:00 Tucakovic, Studies of the Lambda-p correlations in the KLOE data by AMADEUS

16:00 – 16:30 Coffee break

16:30 – 17:00 Piano, Lambda proton production by two-nucleon absorption on light nuclei

17:00 – 17:30 Scordo, Study of the KN interaction via the Sigma+pi- channel with the KLOE detector by the AMADEUS collaboration

17:30 – 18:00 Sasaki, Strangeness $S=-2$ baryon-baryon interactions on the lattice

Friday, 25 October

Chair: Jiri Mares

9:00-9:30 Ikeda, Interaction between nucleon and negative-parity Lambda from flavour SU(3)

LQCD simulation

9:30 – 10:00 Mihaylov, Hunting for K^* plus in pp and pNb reactions

10:00 – 10:30 Shevchenko, Quasi-bound and scattering states in the $K\bar{b}NN \rightarrow \pi\Sigma N$ systems

10:30 – 11:00 Coffee break

11:00 – 11:30 Sakuma, Search for double strangeness di-baryon at J-PARC

11:30 – 12:00 Ohnishi, Energy spectrum of 1S kaonic deuterium

12:00 – 12:30 Closure

LUNCH