

# **International Workshop on Strangeness Nuclear Physics 2017**

**Sunday 12 March 2017 - Tuesday 14 March 2017**

**Ekimae Campus, Osaka Electro-communication University**

## **Book of abstracts**

# Table of contents

Registration .....	1
Opening address .....	1
Spectroscopy of Lambda Hypernuclei .....	1
Hypernuclear structure with antisymmetrized molecular dynamics .....	1
Clusters in $^{12}\text{C}$ and $^{13}\text{C}$ .....	1
P-shell hypernuclear structure and its production rates based on a parity-mixing model .....	1
Lambda-N and Sigma-N interactions from 2+1 lattice QCD .....	1
Production of hypernuclei .....	1
Recent progress of search for $^6\text{Li}(\pi^-, K^+)X$ reaction in J-PARC E10 .....	1
A plan to search for a tetra-neutron state in the $^4\text{He}(\pi^-, \pi^+)$ reaction at J-PARC .....	2
Hypernuclear spectroscopy via the real photo-induced reaction .....	2
Spectroscopy of $S=-2$ systems with $(K^-, K^+)$ reaction .....	2
Production and structure of $\Xi$ -hypernuclei .....	2
QCD simulations on the $S = -2$ baryon-baryon interaction .....	2
A relativistic formulation of baryon-baryon interactions in chiral perturbation theory .....	2
Experimental study of double hypernuclei with a hybrid emulsion method at J-PARC .....	2
Understanding the shortened lifetime of Hypertriton .....	2
Design of an experiment for hypernuclear lifetime measurement with photon beam .....	2
Experimental studies on the $\bar{K}$ -N interaction .....	3
On the structure observed in the in-flight $^3\text{He}(\bar{K}^-, \Lambda p)n$ reaction at J-PARC .....	3
Dynamics of kaonic nuclei in an improved quark mass density-dependent model .....	3
Analysis status of the $d(K^-, n)\pi^+$ $\Sigma^+$ and $d(K^-, p)\pi^-\Sigma^0$ at J-PARC K1.8BR beam line .....	3
Phi meson in nucleus at J-PARC .....	3
Quark mass dependence of H-dibaryon in Lambda-Lambda scattering .....	3
KN scatterings and hyperon resonance .....	3
Baryon Spectroscopy with Heavy Flavors at J-PARC .....	3
Charm hadron interactions from lattice QCD .....	3
Kondo effect for charm hadrons in nuclear matter .....	4

Lambda_c N interaction from lattice QCD and Lambda_c nuclei .....	4
Universal physics of two neutrons with one flavored meson .....	4
Recent developments in strangeness nuclear physics and the hyperon puzzle .....	4
Strangeness in Compact Stars .....	4
Hyperon stars at zero and finite temperatures with the variational method .....	4
The strangeness quark mean field theory .....	4
Quark matter in compact stars: implication from recent observations .....	4
B-B interaction and neutron star EOS .....	4
Strangeness production in RHIC beam energy scan .....	5
Fesibility studies of high intensity heavy ion beam acceleration in J-PARC .....	5
Closing .....	5
Possible new Lambda* resonance with J=3/2 in Lambda_c decay and K-p -> Lambda eta .....	5

22

**Registration**

23

**Opening address**

24

**Spectroscopy of Lambda Hypernuclei**

25

**Hypernuclear structure with antisymmetrized molecular dynamics**

26

**Clusters in  $^{12}\text{C}$  and  $^{13}\text{C}$**

27

**P-shell hypernuclear structure and its production rates based on a parity-mixing model**

28

**Lambda-N and Sigma-N interactions from 2+1 lattice QCD**

29

**Production of hypernuclei**

30

**Recent progress of search for  $^6\text{Li}$ -Lambda via the  $^6\text{Li}(\pi^-, K^+)X$  reaction in J-PARC E10**

31

**A plan to search for a tetra-neutron state in the  $^4\text{He}(\pi^-, \pi^+)$  reaction at J-PARC**

32

**Hypernuclear spectroscopy via the real photo-induced reaction**

33

**Spectroscopy of  $S=-2$  systems with  $(K^-, K^+)$  reaction**

34

**Production and structure of  $\Xi$ -hypernuclei**

35

**QCD simulations on the  $S = -2$  baryon-baryon interaction**

36

**A relativistic formulation of baryon-baryon interactions in chiral perturbation theory**

37

**Experimental study of double hypernuclei with a hybrid emulsion method at J-PARC**

38

**Understanding the shortened lifetime of Hypertriton**

39

**Design of an experiment for hypernuclear lifetime measurement with photon beam**

40

**Experimental studies on the  $\bar{K}$ -N interaction**

41

**On the structure observed in the in-flight  $^3\text{He} (\bar{K}^-, \Lambda p) n$  reaction at J-PARC**

42

**Dynamics of kaonic nuclei in an improved quark mass density-dependent model**

43

**Analysis status of the  $d(\bar{K}^-, n)\pi^+$   $\Sigma^+$  and  $d(\bar{K}^-, p)\pi^0$  at J-PARC K1.8BR beam line**

44

**$\Phi$  meson in nucleus at J-PARC**

45

**Quark mass dependence of H-dibaryon in  $\Lambda$ - $\Lambda$  scattering**

46

**KN scatterings and hyperon resonance**

47

**Baryon Spectroscopy with Heavy Flavors at J-PARC**

48

**Charm hadron interactions from lattice QCD**

49

**Kondo effect for charm hadrons in nuclear matter**

50

**Lambda\_c N interaction from lattice QCD and Lambda\_c nuclei**

51

**Universal physics of two neutrons with one flavored meson**

52

**Recent developments in strangeness nuclear physics and the hyperon puzzle**

53

**Strangeness in Compact Stars**

54

**Hyperon stars at zero and finite temperatures with the variational method**

55

**The strangeness quark mean field theory**

56

**Quark matter in compact stars: implication from recent observations**

57

**B-B interaction and neutron star EOS**

58

**Strangeness production in RHIC beam energy scan**

59

**Fesibility studies of high intensity heavy ion beam acceleration in J-PARC**

60

**Closing**

61

**Possible new  $\Lambda^*$  resonance with  $J=3/2$  in  $\Lambda_c$  decay and  $K-p \rightarrow \Lambda \eta$**