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RIKEN

Book of Abstracts

Contents

EURICA Status 1

The DEGAS Detector 1

Nuclear structures and beta-decay schemes for the Sb, Te, and I nuclides beyond N = 82 . 1

Decay spectroscopy around 78Ni 2

EURICA Isomer and Beta-delayed Gamma-ray Spectroscopy in the Vicinity of the 170Dy Valence Maximum and Future Studies at DESPEC 2

Enhanced understanding of the structure of nuclei around 100Sn from gamma rays . . . 2

Decay Spectroscopy with EURICA in the region of Sn-100 3

Lifetimes of 2+ states in 104,106Zr measured using EURICA augmented with 18 LaBr3(Ce) detectors 3

From gammas to neutrons: the briken project 4

Improvement of beta-ion position association in implantation detector WAS3ABI and beta-gamma spectroscopy of neutron-rich Mo isotopes 4

Shape evolution in neutron-rich A~140 nuclei beyond the doubly-magic nucleus ^{132}Sn . 5

Decay studies of high-spin isomers in the mass 90 region 5

RIBF80: Results and Perspectives 6

β-Decay Spectroscopy of 58Zn 6

Beta-decay spectroscopy measurements of 136,137,138Sb 7

Shape coexistence along N=40 7

Study of isospin symmetry and isoscalar pn-pairing beyond the f7/2 shell 8

New isotopes and 2p radioactivity of 67Kr 8

Masses and beta-decay properties of r-process nuclei around N=56 8

Beta- and beta-n decay Spectroscopy of 131-134Sn 9

Comparison of Tz=-2 beta decays with their mirror process on Tz=2 nuclei and search for isospin suppressed gamma and proton transitions 9

Isomer and beta-gamma spectroscopy of neutron-rich Z=56 to 61 nuclei (RIBF-86) 10

β-decay half-lives of neutron-rich nuclei 10

Beta-delayed proton emission of 73Sr and the effective half-life of 72Kr in stellar conditions 11

Offline measurement of high-spin 178m2Hf isomer 11

Decay spesctroscopy around 128Pd 11

Decay Spectrscopy around 110Zr 12

Isomer spectroscopy of 92 and 94 Se with EURICA 12

New Isotope Search 12

Dinner at a Restaurant ”The WATAMI” near Wako-Station 12

Welcome 13

Opening / **0**

EURICA Status

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The isotopes taken taken by EURICA spectrometer during the last five years will be presented. The data sharing will be discussed.

Future experiment / **1**

The DEGAS Detector

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The development of the electrically cooled massive HPGe Detectors is driven by the development of the DEGAS (DEspec Germanium Array Spectrometer) detector which is in the heart of the DESPEC (DEcay SPECtroscopy) Project at GSI and FAIR. DESPEC is to utilize 28 DEGAS Detectors and each one has to comprise 3 encapsulated 60% HPGe crystals in a common cryostat. The detectors have to be placed as close as possibly each other and very close to the target chamber (AIDA active target) in order to maximize the efficiency. Additionally, each crystal is to obtain a high efficient scintillator (Backcatcher) placed behind (with respect to the target chamber) and read out by a silicon photomultiplier (SiPM). The Backcatcher serves to absorb the forward scattered Compton photons and actively to protect the germanium crystals from the environmental gamma-background. Despite that DEGAS is to operate in a trigger mode, low background conditions are required for some specific experiments. Along the classic electronic assembly (preamplifier etc.), the detector has to carry onboard additional electronics – HV modules, power supplies, monitoring and slow control modules which are aimed at enhancing of its performance. All this specifics reflect on the structure of the detector and install sometimes contradicting requirements.

Neutron-rich nuclei / **3**

Nuclear structures and beta-decay schemes for the Sb, Te, and I nuclides beyond N = 82

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The experimental results are exhibited based on the beta-decay schemes for the Sb, Te, and I nuclides beyond N = 82. We provide for the first time the internal level structures of 140Te, 140I, and 142I, as showing the beta-decay lifetime measurements of the corresponding decay processes. The observed level structures and decay schemes will be discussed briefly systematically with the help of the shell model calculations. Finally, we outline perspectives for the future experiments aiming at B-RIKEN campaign.

Neutron-rich nuclei / 5

Decay spectroscopy around 78Ni

Author: Megumi NIIKURA[1]

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A β-decay spectroscopy experiment in the closest vicinity of 78Ni was performed at RIBF as a part of the EURICA campaign. The low-lying level structure in odd-mass isotonic chain along the neutron magic number of N=50 is determined by the neutron single-particle evolution with decreasing proton number. Some reduction of the neutron single-particle energy gap between 2d5/2 and 3s1/2 orbitals was already indicated by the β-decay studies on 83Ge. Theoretical models, that have attempted to extend this evolution towards 78Ni, are not yet in agreement. We have performed the β-decay measurement of neutron-rich Cu isotopes in order to determine the low-lying level structure in Zn istopes which have only two valence protons above 78Ni. In this contribution, the newly constructed level schemes of 79-81Zn will be presented. The shell structure and its evolution based on the comparison with shell-model calculations will also be discussed.

Neutron-rich nuclei / 6

EURICA Isomer and Beta-delayed Gamma-ray Spectroscopy in the Vicinity of the 170Dy Valence Maximum and Future Studies at DESPEC

Author: Patrick Regan[1]

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This presentation will report on the experimental results from EURICA experiments focussed on the isomer-decay spectroscopy of nuclei in the region of the prolate-deformed, 170Dy valence maximum. In particular the excitation energies of the ground state (K=0+) and gamma (K=2+) band members will be presented [1,2] together with isomer spectroscopy of the neighbouring Tb nuclei [3]. These results allow a mapping of the quadrupole collectivity and deformation across the maximum for Np.Nn values between 50<Z<82 and 82<N<126 and also allow an evaluation of the mixing between the ground state and gamma-vibrational structures. Additional results on isomer decay studies in N=100 nuclei will also be presented which demonstrate evidence for a deformed sub-shell closure at N=100 and the possible importance of beta_6 deformation in the deformed single-particle ordering in this region [4,5]. Finally a short presentation of some future possible research activities with the DESPEC LaBr3 fast-timing array [6] will be discussed.

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[1] H.Watanabi et al., Phys. Lett. B760 (2016) p641
[2] P.A.Soderstrom et al., submitted to Physics Letters B.
[3] L.A.Gurgi et al., abstract and oral presentation at the ICDA2 conference, U. Surrey, UK July 2016.
[4] Z. Patel et al., Phys. Rev. Lett. 113 (2014) 262502
[5] Z. Patel et al., Phys. Lett. B753 (2016) p182
[6] Oliver J. Roberts et al., Nucl. Inst. Meth. Phys. Res. A748 (2014) p91; P.H.Regan et al., Rad. Phys. Chem. 116 (2015) p38.

Proton-rich nuclei / 7

Enhanced understanding of the structure of nuclei around 100Sn from gamma rays

Author: Jason Park[1]

[1] *University of British Columbia / TRIUMF*

The doubly-magic 100Sn stands as a testing ground for many topics of nuclear structure, such as N = Z = 50 shell strength in proximity to the proton dripline, and evolution in the single particle structure and shell evolution. For decades, these have been actively investigated in both theoretical and experimental efforts. In order for modern large-scale shell model calculations with increasing computational power to be validated, excited states of nuclei in the vicinity of 100Sn and their transitions must be probed with gamma-ray measurements.
In an experiment in June 2013, record quantities of 100Sn and its neighboring nuclei were produced at RIKEN RIBF. Gamma rays following isomeric/beta/bp decays were measured with EURICA with greater statistics and sensitivity, enriching the knowledge of the structure of N ~ Z ~ 50 nuclei with new measurements in energy, half-life, and branching ratio. These results will be presented in comparison with shell model calculations, revealing both the robustness and weaknesses of the current theory in this region of nuclei.

Proton-rich nuclei / **8**

Decay Spectroscopy with EURICA in the region of Sn-100

Author: Daniel Lubos[1]

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100Sn is the heaviest doubly magic N=Z nucleus. Calculations in the extreme single particle model predict a pure Gamow-Teller transition [1] and more recent realistic large scale shell model (LSSM) calculations also show that this transition is fragmented by less than 5% [2]. Thus, the transition 100Sn ! 100In is the ideal playground in order to derive the full transition strength and probing the shell model. The results for half-lives in this region serve as input for astrophysical rp-process calculations. We have performed an experiment concerning the Gamow-Teller transition strength BGT of the -decay of 100Sn using the BigRIPS separator of the Radioactive Isotope Beam Factory (RIBF) of the RIKEN Nishina Center, Japan. Focusing on the production of 100Sn and new isotopes, we used a 124Xe beam at 345 MeV/u fragmentating on a 4-mm 9Be target. For decay spectroscopy, the detector arrays EURICA and WAS3ABi were used which consist of High Purity Ge- and LaBr-detectors for
-spectroscopy as well as Si-detectors for calorimetry of positrons. The
N=Z-2 nuclei 90Pd, 92Ag, 94Cd and 96In were discovered [3]. The number of nuclei with NZ in this region has been significantly increased compared to previous experiments [4]. We present results of the half-lives of these nuclei where half-lives of the most exotic species could be determined for the first time. Furthermore, the systematic study on the Q-value of 100Sn revealing an improved value for the GT-strength and results from the analysis of
-spectra along the N=Z line
will be discussed.
[1] Brown, B. A. and Rykaczewski, K., Phys. Rev. C 50, R2270 (1994)
[2] Bobyk, A., Kaminski, W. and Borzov, I. N., Acta Phys. Pol. B 31, 953 (2000)
[3] Celikovic, I., et al., Phys. Rev. Lett. (2016), in press
[4] Hinke, C. B., et al., Nature 486, 341 (2012)

Neutron-rich nuclei / **10**

Lifetimes of 2+ states in 104,106Zr measured using EURICA augmented with 18 LaBr3(Ce) detectors

Author: Alison Bruce[1]

[1] *University of Brighton*

Abstract (text):
In May 2013 the EURICA array was augmented with 18 LaBr3(Ce) detectors so that short level-lifetimes could be measured. The performance of the LaBr3(Ce) array will be outlined and results of measurements on the first 2+ states in 104,106Zr [1] will be presented and discussed in terms of the deformations extracted for the nuclei. Additional results on new isomers observed in 113Nb and 115Mo will also be discussed as well as ideas for future experiments using a full array of LaBr3(Ce) detectors [2].

REFERENCES:
[1] F. Browne et al., Phys. Lett. B750 (2015) 448-452.
[2] O. J. Roberts et al., Nucl. Inst. Meth. Phys. Res. A748 (2014) 91-95.

Future experiment / **11**

From gammas to neutrons: the briken project

Author: Gabor Kiss[1]

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After decommissioning of the EURICA Array, F11 area at RIKEN will host another – hopefully similarly successful – detection system (BRIKEN) which will be used to study the beta delayed neutron emission.

Beta-delayed neutron emission probabilities (Pn values) of exotic nuclei on the one hand side are key parameters for understanding the formation of the heavy elements in the universe. It has been known that Pn values are responsible for redistributing the initial isotopic distribution of matter and thus smoothing the final abundance pattern as observed in the solar system. Recent studies have also highlighted that freeze-out is not instantaneous and neutron capture during this phase is responsible for some of the main features of the r-process abundance pattern.

On the other hand, beta-delayed neutron emission is important for nuclear physics, too since it provides unique information about the nuclear structure of most neutron-rich nuclei. The Pn values are one of the fundamental gross properties of neutron-rich nuclei that reflect the beta-feeding of excited states above neutron separation energy. The study of neutron gated gamma rays can provide detailed spectroscopic information about the nuclear structure of daughter nuclei, that can be used for example to test the persistence of shell gaps and to discover changes in nuclear structure.

The aim of the present talk is to introduce the setup and the research program.

Neutron-rich nuclei / **12**

Improvement of beta-ion position association in implantation detector WAS3ABI and beta-gamma spectroscopy of neutron-rich Mo isotopes

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In the EURICA experiment, beta-ray events and ion events are separately recorded and it requires an algorithm for associating the beta events and the ion events. We have developed more elaborate methods to increase the correlated events by using beta-ray tracking and ion position correction. Based on the new algorithm, the level-schemes of neutron-rich Mo isotopes are under investigation. Hopefully, it might produce the first result on the level scheme of 112Mo or heavier isotopes.

Neutron-rich nuclei / **13**

Shape evolution in neutron-rich A~140 nuclei beyond the doubly-magic nucleus ^{132}Sn

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Shape evolution is one of the most important subjects to understand competition between single-particle and collective motions in nuclei as a function of neutron and proton numbers. Study of shape evolution in very neutron-rich nuclei became possible by the EURICA project. The nuclei around neutron-rich doubly-magic nucleus ^{132}Sn indicate characteristics with spherical shape, whereas the mid-shell isotopes with $Z\sim$66 and $N\sim$100 are well known to have deformed shapes. However, for neutron-rich isotopes with Z=51-55 in the transitional mass region, informations are limited on the low-lying states because of the difficulty of the production of these nuclei. For these transitional nuclei with $N\sim$88, not only prolate collectivity but also octupole collectivity are expected to have important effects on their nuclear structures. In order to investigate the mechanism of nuclear structure change in the transitional mass region, the neutron-rich isotopes of Sb, Te, I, Xe and Cs were studied systematically based on the β-γ and the isomer spectroscopy as one of the EURICA campaign experiments in May 2013. In the present report, the change of nuclear structure will be discussed for the low-lying states as a function of neutron and proton numbers.

Proton-rich nuclei / **14**

Decay studies of high-spin isomers in the mass 90 region

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There are a significant number of isomeric states in the region close to the N=Z line and immediately below 100Sn, some of which may decay via particle emission. The study of these states yields vital experimental data on neutron-proton (np) pairing, provides a sensitive test for nuclear models, and input for understanding the astrophysical rp-process.
This presentation will report on results from the ribf83 experiment performed at RIKEN. Nuclei of interest were produced from a primary beam of 124Xe and identified using BigRIPS. The active stopper SIMBA, a stack of 3 highly segmented double sided silicon detectors and beta-particle calorimeter, was used to identify β decays from implanted ions and extract Q values for the decay. Coincident gamma-rays were recorded by EURICA, an array of high purity germanium detectors.
The results of gamma-ray spectroscopy from the β-delayed proton decay of 96Cd and 98In will be presented and compared to shell model calculations and WKB estimates. Results of a gamma-ray decaying isomer identified in 96Cd will also be presented and compared to r3gds shell-model calculations. The results of a Geant4 simulation, that was employed to extract the Q value of the β decay

of 94Ag, will also be presented, along with the results of conversion electron spectroscopy, used to measure the lifetimes of states in 95Ag.

Summary:

The results of gamma-ray spectroscopy from the β-delayed proton decay of 96Cd and 98In will be presented and compared to shell model calculations and WKB estimates. Results of a gamma-ray decaying isomer identified in 96Cd will also be presented and compared to r3gds shell-model calculations. The results of a Geant4 simulation, that was employed to extract the Q value of the β decay of 94Ag, will also be presented, along with the results of conversion electron spectroscopy, used to measure the lifetimes of states in 95Ag.

Neutron-rich nuclei / **15**

RIBF80: Results and Perspectives

Authors: Ana Isabel Morales[1]; Hiroshi Watanabe[2]; giovanna benzoni[3]

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RIBF80 experiment, "Structural changes between N=40 and N=50 next to Ni isotopes: a joint proposal" was performed in spring 2013 using a 238U beam at 345 MeV/u. Average beam intensity was about 10 pnA and the experiment was carried out for ~3 days.
BigRIPS was tuned to transmit 71Fe in the central trajectory and nuclei ranging from Mn to Cu were successfully implanted in the WAS3ABi array, consisting for this experiment of 5 layers of Si detectors. Being at the end of the Fast-Timing campaign the EURICA set-up was implemented with the addition of 18 LaBr3(Ce) detectors.
The proposal aimed at different topics, such as the assessment of the presence of seniority isomers in 72-74-76Ni isotopes, the detailed beta spectroscopy of newly populated Mn isotopes and the study of shape coexistence in the Ni and Co isotopes.
Results on the beta decay of Mn isotopes, confirming Fe nuclei to be deformed up to A=70, have been already published in "Decay properties of 68,69,70Mn: Probing collectivity up to N = 44 in Fe isotopic chain", G.Benzoni et al. PLB 751 (2015) 107.
The analysis of the even Ni isotopes, mainly devoted to the search of states build on the deformed minima predicted to coexist with spherical structures by MCSM calculation of Otsuka et al., is being published in several papers: "Low-lying excitations in 72Ni", A. I. Morales et al PHYSICAL REVIEW C 93, 034328 (2016), "Shape-Selective beta Decay of A=70 Isobars in the New N<=40 Island of Inversion", submitted and others in preparation.
The data analysis focused mainly on the beta decay as a tool to study Ni isotopes and could benefit from the richness of the data set being able to populate the nuclei of interest via different decay chains, in order to enhance low- or high-spin structures.
The data analysis is still on-going and will now focus on the odd Ni isotopes populated either directly from Co or in the beta-delayed neutron emission channel.

Results and perspectives of this data analysis will be presented.

Proton-rich nuclei / **16**

β-Decay Spectroscopy of 58Zn

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Co-author: Yoshitaka Fujita [2]

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Gamow-Teller (GT) transitions play important roles in the studies of nuclear structure and nucleosynthesis. In the A = 58 isobars, the GT transition strengths to the states in 58Cu have been measured by high-resolution 58Ni(3He,t)58Cu reactions of ΔE ~ 30 keV. In order to discuss isospin symmetry in the A = 58 isobars, we studied the β decay of 58Zn. In addition, the β decay of 58Zn has the 0+⟶0+ super-allowed Fermi branch. Therefore, it is possible to discuss the isospin symmetry breaking, the unitarity of CKM matrix, and CVC hypothesis by measuring the precise ft value for the Fermi transition.
The experiment was performed at RI beam factory (RIBF) at RIKEN. The secondary beams including 58Zn and other proton rich nuclei of pf-shell were produced, separated, and identified by using the BigRIPS separator. Then, they were implanted into WAS3ABi consisting of 3 DSSSDs placed at the end of Zero-degree spectrometer. The implantation of the heavy ions and the β-delayed charged particles were measured by WAS3ABi. The β-delayed γ rays were measured by Ge Cluster detectors, the EURICA setup. As a result, the β-decay half-life of 58Zn was obtained very precisely. The accuracy is 20 times better than these in previous results. In addition, we discovered new decay branches to the excited state above the proton separation energy in 58Cu.

Neutron-rich nuclei / **17**

Beta-decay spectroscopy measurements of 136,137,138Sb

Author: James Keatings[1]

[1] *University of the West of Scotland*

Level schemes of the neutron-rich nuclei 136,137,138Sb have been constructed from beta- and beta-n decay data gathered during the EURICA campaign.
Decay schemes were constructed from ion-beta-gamma coincidence events and these are the first reports of excited states in 137,138Sb and the first level
scheme of 136Sb derived from beta-decay data. With only one proton beyond the Z=50 shell closure, information on the structure of the N>82 Sb nuclei provides
key data allowing the evolution of nuclear structure from single-particle states to those with a more fragmented structure to be followed.
Results on Pn values and beta-decay half-lives will also be presented.

Neutron-rich nuclei / **18**

Shape coexistence along N=40

Author: Kathrin Wimmer[1]

[1] *Central Michigan University*

Experiment RIBF140 was the last experiment performed with EURICA. The aim is to investigate the structural evolution the N=40 nuclei. In two settings neutron-rich nuclei around 64Cr were implanted in the newly constructed AIDA implantation detector array. In this talk I will present an overview of the goals of the experiment and some first results on the spectroscopy of nuclei around N=40.

Proton-rich nuclei / **19**

Study of isospin symmetry and isoscalar pn-pairing beyond the f7/2 shell

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The main goal of the RIBF93 experiment is the study isospin symmetry and isoscalar pn-pairing in A~70 region. The experiment was performed in June 2015 as part of the EURICA campaign using the high intensity 78Kr beam provided by RIKEN.
In this talk the motivations and the status of the analysis of the RIBF93 experiment will be presented. From the produced isotopes we have started the analysis with the study of the beta decay of 70Br. The motivations for this study and new results on the beta decay of 70Br

high spin isomer will be presented.

Proton-rich nuclei / **20**

New isotopes and 2p radioactivity of 67Kr

Author: Bertram Blank[1]

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In pioneering experiments at GANIL and GSI, this 2p radioactivity was discovered in 2002 and meanwhile 45Fe, 48Ni and 54Zn are established 2p emitters.

After these discovery experiments, the investigation of 2p radioactivity was continued with time-projection chambers to study the decay dynamics via measurements of the individual proton energies and the relative proton-proton emission angle. In experiments at GANIL and MSU on 45Fe, 54Zn, and 48Ni were studied by this means.

In a recent experiment at the BigRIPS separator of RIKEN, new isotopes in the Ge to Kr region were found and a new 2p emitter, 67Kr, was discovered and its basic decay characteristics have been established, whereas two other 2p radioactivity candidates, 59Ge and 63Se, have been shown to decay by beta decay.

The talk will review the experimental results about new isotopes and production cross sections and on ground-state two-proton radioactivity and compare these results with theoretical predictions. Future studies of new 2p emitters will also be discussed.

Neutron-rich nuclei / **21**

Masses and beta-decay properties of r-process nuclei around N=56

Author: Alfredo Estrade[1]

[1] *University of Edinburgh*

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Experiment RIBF1306 was run in June 2016 during the final EURICA campaign. The goal of the experiment is a combined measurement of nuclear masses (with the time-of-flight technique) and decay spectroscopy of neutron-rich isotopes in a region critial to understand the formation of the first r-process abundance peak. I will present the details of the experimental setup and the status of data analysis.

Neutron-rich nuclei / **22**

Beta- and beta-n decay Spectroscopy of 131-134Sn

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Beta and beta-n decay spectroscopy of the parent 131-136In nuclei has been performed within the EURICA campaign.
This had the aim of studying the semi-magic Sn nuclei, whose single-particle (seniority) structure forms a sensitive test of
the ingredients of shell-model calculations. Level schemes of 131-134Sn will be presented and comments
made about inconsistencies and anomalies present in the literature. Suggestions for measurements to be performed
within the B-RIKEN campaign will be made.

Proton-rich nuclei / **23**

Comparison of Tz=-2 beta decays with their mirror process on Tz=2 nuclei and search for isospin suppressed gamma and proton transitions

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Isospin symmetry is based on the almost identical ‘behavior’ of
proton and neutron in terms of the strong interaction.
However, due to isospin breaking interactions, including
electro-magnetic interaction, slight asymmetry is associated with
the nuclear structure of mirror nuclei.

We have been studying Tz=\pm 1−>0, Tz=\pm 3/2−>\pm 1/2, and
Tz=\pm 2−>\pm 1 mirror Gamow-Teller (GT) transitions as a tool to
study the nuclear structure of relevant nuclei in connection with
isospin symmetry and isospin selection rules.
The Tz=+1−>0, +3/2−>+1/2, and +2−>+1 GT- transitions have been
studied by high-resolution (about 30 keV) \beta- like (3He,t)
reactions performed at RCNP, Osaka, while mirror GT+ transitions,
in particular for lower Z, pf-shell nuclei, by the \beta+ decays
of proton rich unstable nuclei performed at GANIL, Caen and GSI,
Darmstadt.
Note that the production rate of the negative Tz nuclei in the
Z > 30 region is the largest at BigRIPS @RIKEN.
Since these nuclei are situated on the path of rapid-proton (rp)
process, decay study of them are also of astro-physical interest.

Eurica setup in combination with BigRIPS was used to study the
GT transitions (and also Fermi transitions) by the \beta decay of

Tz= -1, -3/2, and -2 nuclei in the higher Z, pf-shell region (Z=30 - 36). The initial 345 MeV/nucleon 78Kr beam with an intensity up to 300 pnA on the Be target was used for the production of fragments.
It is expected that these near-drip-line nuclei decay with various decay modes due to large decay Q-values. They can be delayed-\gamma, delayed-proton, and even delayed-\gamma-proton. Therefore, measurements of particle decay as well as gamma decay are important.

Produced unstable nuclei were implanted in active stopper, i.e., WAS3ABi setup, for the measurement of \beta rays and delayed-protons. The setup consists of three 1mm thick double-sided Si strip detectors (DSSSD) with each of them having an active area of 60 x 40 mm2 segmented into 60 vertical by 40 horizontal strips. The WAS3ABi setup was surrounded by the EURICA setup consisting of 12 HPGe CLUSTER-detectors of Euroball type for the efficient measurement of \gamma rays.

Owing to the large productive power of unstable nuclei at BigRIPS, we could observe Tz=-1 nuclei 58Zn, 60Ga, 62Ge, 64As, 66Se, and 70Kr, Tz=-3/2 nuclei 57Zn, 61Ge, 65Se, and 69Kr, Tz=-2 nuclei 60Ge and 64Se. It is decided that all of them will analyzed inside our collaboration.

After performing particle identifications, we started to have precise half-life values. For some of the nuclei, the error-bars have reduced by one-order-of-magnitude due to the good statistics. Reconstruction of \gamma-decay scheme has also started recently.

Neutron-rich nuclei / 25

Isomer and beta-gamma spectroscopy of neutron-rich Z=56 to 61 nuclei (RIBF-86)

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Experimental results on the excited states of neutron-rich Z=56 to 61 nuclei will be exhibited. Large prolate deformation is expected in this region and many K isomers were observed. Shape evolution including higher-order deformations such as octupole or hexadecupole shapes will be discussed from the systematics of the excitation energies of isomer or g.s.-band states.

Neutron-rich nuclei / 26

β-decay half-lives of neutron-rich nuclei

Author: Shunji Nishimura[1]

[1] *Researcher*

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The status of the β-decay half-life for neutron-rich nuclei will be reported using the WAS3ABi and EURICA spectrometer.

Proton-rich nuclei / **27**

Beta-delayed proton emission of 73Sr and the effective half-life of 72Kr in stellar conditions

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With a beta-decay half-life of 17s, 72Kr is a main waiting point for the rp-process in accreting neutron stars. The effective half-life in stellar environment could be, however, significantly reduced by the 72Kr(2p,g)74Sr reaction. To accurately model the rp-process flow in this reaction channel, the proton separation energy of the proton unbound nucleus 73Rb is required. In the experiment, 73Sr was produced by fragmentation of a 124Xe beam and implanted in the silicon detectors of WASABi. The beta decay of 73Sr produces 73Rb and the energy of the proton emitted can be measured by the silicon detector with a resolution of ~20 keV. The talk reports on the status of the data analysis of the experiment.

Neutron-rich nuclei / **28**

Offline measurement of high-spin 178m2Hf isomer

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There are a number of isomeric states in the mass range around A = 180.
The most interesting one in this region would be the long-lived
high-spin 178m2Hf isomer.
If a target which contains nanogram quantities of 178m2Hf is fabricated, the door to explore high-spin nuclear reactions will be opened. To this end, we performed a feasibility study to produce the isomeric state using the fusion reaction 176Yb(a,2n)178m2Hf at RIKEN. After irradiation of an alpha beam, we carried out an offline
measurement of the activity using EURICA.
In this talk, preliminary results of the data analysis will be presented.

Neutron-rich nuclei / **29**

Decay spesctroscopy around 128Pd

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Summary talk around 128Pd experiment.

Neutron-rich nuclei / **30**

Decay Spectrscopy around 110Zr

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Status of decay spectroscopy experiment (RIBF-026) will be reported.

Neutron-rich nuclei / **31**

Isomer spectroscopy of 92 and 94 Se with EURICA

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We will report on the gamma-ray spectroscopic information on 92,94Se after isomeric decay measured with the EURICA array in the scope of the 2nd campaing of the SEASTAR project conducted in RIKEN, May 2015. The nuclei of interest where produced via in-flight fragmentation of 238U @ 345MeV/A and selected using the BigRIPS fragment separator. The selected fission products passed through a LH2 secondary target where (p,2p), (p,np), (p,p') reactions took place. The final products were identified using the ZeroDegree spectrometer. and eventually stopped in the AIDA silicon stopper, where de-excitation from isomeric states previously populated took place. The gamma rays emited during the de-excitation process and the lifetime of the isomeric states where measured using EURICA.

Neutron-rich nuclei / **32**

New Isotope Search

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Status of new isotope search will be reported.

Dinner at "The WATAMI" near Wako-Station / **33**

Dinner at a Restaurant ”The WATAMI” near Wako-Station

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Opening / 34

Welcome

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