Technical Meeting on Nuclear Data Needs for Antineutrino Spectra and their Applications

Monday 7 April 2025 - Friday 11 April 2025

Seoul National University, Seoul

Book of Abstracts

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Status of the Taishan Antineutrino Observatory

Author: Yichen Li[1]

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The Taishan Antineutrino Observatory (TAO) is a satellite experiment of the Jiangmen Underground Neutrino Observatory (JUNO), designed to achieve a precise measurement of the reactor antineutrino spectrum with an unprecedented energy resolution of 2% at 1 MeV. Located 44 meters from one core of the Taishan nuclear power plant, TAO utilizes a ton-scale liquid scintillator detector nearly fully instrumented with cutting-edge silicon photomultipliers (SiPMs) featuring a photon detection efficiency (PDE) of approximately 50%, achieving a high photoelectron yield of around 4500 p.e./MeV. By operating the detector at -50℃, the SiPM dark current is reduced by three orders of magnitude. TAO is able to reveal the fine structure of the reactor antineutrino spectrum and can help to validate reactor monitoring techniques using neutrinos. This talk will provide a comprehensive introduction to the TAO experiment and its current status.

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First observation of reactor antineutrinos by coherent scattering with CONUS+

Author: Edgar Sanchez Garcia[1]

[1] *MPIK*

Neutrinos are elementary particles that interact only very weakly with matter. Neutrino experiments are therefore usually big, with masses on the multi-ton scale. The thresholdless interaction of coherent elastic neutrino-nucleus scattering (CEνNS) leads to drastically enhanced interaction rates, which allows for much smaller detectors. This could open the path for reactor monitoring through the CEνNS channel. Additionally, the study of this process gives insights into physics beyond the Standard Model of particle physics.

The CONUS+ experiment is a project designed to detect for the first time CEνNS in the fully coherent regime with low-energy neutrinos produced in nuclear reactors. For this purpose, four 1 kg point-contact high-purity germanium detectors with extremely low energy threshold of 160 eV were operated at the Leibstadt nuclear power plant (Switzerland), at a distance of about 21 m from the reactor core. The detector performance and first CONUS+ results after one year of data taking will be presented, including the first observation of a CEνNS signal (395+-106) from from reactor antineutrinos. Finally, the future of CONUS+ will be discused, in particular the replacement of three detectors by newer models with higher Ge crystal masses of 2.4 kg each to further improve the sensitivity of the experiment.

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Novel methods to derive nuclear reactors antineutrino spectra

Author: Alejandro Sonzogni[1]

[1] *Brookhaven National Laboratory*

A multi average-branch fit to the Inverse Beta Decay antineutrino spectrum recently measured by the Daya Bay collaboration with fine binning is performed to derive its corresponding electron spectrum. Utilizing the ^{235}U to ^{239}Pu electron spectrum ratio measured by Kopeikin *et al.*, as well as the ^{235}U to ^{238}U and ^{241}Pu electron spectra ratio from summation calculations, we are able to obtain the ^{235,238}U and ^{239,241}Pu electron spectra following their neutron induced fission under equilibrium condition, which are then compared with direct electron measurements. Following multi average-branch fits to these electron spectra, their corresponding IBD antineutrino spectra are obtained, which are compared to different measured and derived spectra.

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Reactor Power Monitoring With ALARM Neutrino Detector

Author: Fengpeng An[1]

[1] *Sun Yat-sen University*

During the fission process in a nuclear reactor, a substantial flux of antineutrinos is generated. These antineutrinos carry valuable information about the reactor core. By measuring the neutrino flux and energy spectrum, it is possible to observe the status of the reactor, which makes neutrino detection a possible probe for reactor monitoring. Sun Yat-sen University is currently constructing a modular plastic scintillator neutrino detector named ALARM (Array of Lattice for Anti-neutrino Reactor Monitoring). This detector will be deployed this year at the Taishan Nuclear Power Plant in Guangdong Province, China, to conduct experimental research on neutrino-based reactor monitoring, and evaluate the practical capabilities of such neutrino detectors.

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Semi-empirical model for fission product yields

Author: Jounghwa Lee[1]

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[2] *IBS*

Accurate fission product yield (FPY) data are essential for various applications, including reactor antineutrino spectrum calculations. However, experimental FPY data remain incomplete due to the difficulty of measuring short-lived fission fragments. Meanwhile, theoretical models have provided qualitative insights into the fission process but still lack sufficient accuracy for quantitative predictions. To address these limitations, we developed a semi-empirical model to improve FPY predictions. Our study treats the compound nucleus as a microcanonical ensemble, assuming that FPYs are proportional to the level density at the fission barrier. The potential energy at the fission barrier is modeled as a combination of a macroscopic component following the liquid drop model and a microscopic component arising from shell effects, represented as a parabola and a Gaussian function, respectively. The parameters for these components were determined using experimental data.
To properly describe the fission process, we devised a method where the pre-neutron emission FPY is reproduced using the semi-empirical model, followed by the construction of a probability distribution for neutron emission from fission fragments based on neutron multiplicity, ultimately allowing us to calculate the post-neutron emission FPY.

Acknowledgement: This work was supported by KAERI Institutional Program (Project No. 524560-25) and the National Research Foundation of Korea (NRF) grant funded by the Korea Government (MSIT)(No. RS-2024-00436392).

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The recent results of RENO experiment

Author: Byeongsu Yang[1]

[1] *Chonnam National University*

The RENO experiment took 3,800 days of reactor neutrino data at the Hanbit Nuclear Power Plant, Yeonggwang, Korea from August 2011 to March 2023.
In this presentation, we report the final results of the reactor neutrino oscillations using that final data, with improved systematic uncertainties.

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Status of the RENE experiment

Author: Jungsic Park[1]

[1] *Kyungpook National University*

The Reactor Experiment for Neutrinos and Exotics (RENE) is designed to search for sterile neutrinos in the Δm_41 square ~ 2 eV square region by measuring electron antineutrino oscillations at a short baseline. The RENE experiment is proposed to take place at the Hanbit Nuclear Power Plant in Yeonggwang, Korea, owing to the sufficient electron antineutrino flux generated by the facility. The RENE prototype detector comprises an acrylic target with a liquid scintillator that contains 0.5% gadolinium and 10% diisopropylnaphthalene (DIPN), along with a box-shaped gamma catcher filled with a non-doped liquid scintillator. Two 20-inch photomultiplier tubes (PMTs) are utilized to observe inverse beta decay events occurring in the target. Surrounding the detector are plastic scintillators that serve to discriminate inverse beta decay events from the cosmic-ray background. In this presentation, we will provide an update on the current status of the RENE experiment and discuss its future prospects.

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LiquidO: Novel Particle Imaging & Detection in Opaque Media

Author: Anatael Cabrera[1]

[1] *CNRS - Université Paris-Saclay*

Breaking the paradigm of transparency, the LiquidO collaboration introduces a novel approach to particle detection (https://arxiv.org/abs/1908.02859). LiquidO uses an opaque medium (scintillating or not) with a short scattering length to stochastically confine light near its point of origin, capturing it with a dense grid of wavelength-shifting fibres read by SiPMs and fast electronics to generate topological information. This enables highly efficient imaging and possible particle identification, for example, allowing event-by-event topological discrimination of positrons, electrons and gamma events at the MeV scale.

With its strong background rejection capability and the possibility of loading dopants at high concentrations (as transparency is no longer required), LiquidO paves the way for a wide range of new physics measurements across neutrino sciences, many of which are under active exploration. In this talk, we shall highlight the results from our latest prototypes (https://arxiv.org/abs/2503.02541),

using our novel opaque liquid scintillator systems (https://doi.org/10.5281/zenodo.10629927), validating LiquidO's imaging principle, and explore its physics potential with a larger detector.

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AntiMatter-OTech / CLOUD: first LiquidO-based reactor antineutrino physics experiment.

Author: Anatael Cabrera[1]

[1] *CNRS - Université Paris-Saclay*

The AntiMatter-OTech collaboration is pioneering the first fundamental research reactor antineutrino experiment using the novel LiquidO technology (https://arxiv.org/abs/1908.02859) for event-wise antimatter tagging. The project's programme (https://doi.org/10.5281/zenodo.10049845) is twofold. First, the demonstration of antineutrino detection for reactor monitoring on industrial reactor innovation, which is the primary goal of AntiMatter-OTech —funded by the EU-EIC and UKRI. And second, a complementary programme of fundamental neutrino science, which is referred to as the CLOUD experiment. The experimental setup envisioned is the first 10-tonne LiquidO detector, filled with an opaque scintillator (https://doi.org/10.5281/zenodo.10629927). The detector will be located at EDF-Chooz at around 35 m from the core of one of the most powerful European nuclear plants, with minimal overburden (a few meters). Detecting of order 10,000 antineutrinos daily (reactor-ON) with a high (≥100) signal-to-background discrimination also enables a new level of accurate exploration of reactor-OFF data. In addition, CLOUD aims for the highest precision of the absolute flux, along with explorations beyond the Standard Model physics. Subsequent phases plan to exploit metal-doped opaque scintillators for further detection demonstration, including exploring the potential for surface detection of even solar neutrinos.

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Double Chooz: latest lessons & results for reactor antineutrino detection.

Author: Anatael Cabrera[1]

[1] *CNRS - Université Paris-Saclay*

The main lessons from the latest results (https://www.nature.com/articles/s41567-020-0831-y) of the Double Chooz experiment (initially mainly focused on the measurement of θ13) are proposed to be summarised in the context of the present and future reactor antineutrino detection, including possible reactor monitoring during on/off reactor data running. In this respect, Double Chooz provides a key input via its most precise measurement of the reactor flux today.

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Spectral needs for precision (geo)neutrino science

Author: Leendert Hayen[None]

With the advent of large-scale neutrino detectors near reactor sources, the precision on the antineutrino spectrum shape has undergone significant evolution. Even so, current experimental campaigns using coherent neutrino scattering near reactors depend on an accurate knowledge of the energy

spectrum - including below the inverse beta decay threshold. Due to the absence of direct measurements of aggregate neutrino spectra, model errors are an important limiting factor to the discovery potential of new physics using coherent scattering. We will show how model uncertainties, including nuclear shape factor uncertainties due to nuclear structure, give rise to uncertainties at the level of current generation sensitivities [1]. We will additionally show the nuclear structure dependence on theoretical predictions for geoneutrino spectra using dedicated shell model calculations and propose isotopes of interest for spectral measurements.

[1]: L. Hayen, J Phys G 10.1088/1361-6471/ad8ee2

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CONFLUX: A Standardized Framework to Calculate1 Reactor Antineutrino Flux

Author: Xianyi Zhang[1]

[1] *Lawrence Livermore National Lab*

Nuclear fission reactors are abundant sources of antineutrinos for neutrino physics experiments. The flux and spectrum of reactor antineutrinos can indicate the activity and compositions of reactors, offering the application opportunity of reactor survey with neutrino measurements for the wider society. The success of using antineutrinos to survey reactor components and a number of neutrino physics study requires precise prediction of the iso- topic flux of fission generated neutrinos. The past predictions methods are widely dispersed and had involved various methods, data, and assumptions. Disagreements between reactor neutrino measurements and theoretical predictions inspired revision of reactor neutrino calculations in the particle and nuclear physics fields. A standardized neutrino prediction tool is needed to provide physicists methods to easily reveal the impact of their studies to general calculations of reactor neutrino flux, to the theory of beta decay, and to the nuclear physics. The CONFLUX software framework, Calculation Of Neutrino FLUX, is built with the goal to simplify and standardize the calculation. CONFLUX packages three methods to calculate neutrinos generated from reactor neutrinos or individual beta decays with common nuclear data and beta theories for direct cross-method comparison. The software prepacked the latest nuclear database, as well as methods to process the uncertainties. It also allows customized nuclear data and beta theories and user generated time dependent reactor models for convenient adjustment of fission products, theoretical corrections. We will present the structure, usage of CONFLUX with the focus on predicting neutrino flux for CEvNS detection.

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Recent studies of forbidden non-unique transitions

Author: Xavier Mougeot[1]

[1] *CEA*

As illustrated in a recent review of the log-ft values [1], only ~15% over more than 26,000 beta transitions present in the ENSDF database can be considered as well defined, i.e. with firm or probable single spin assignments of the initial and final nuclear states. About one third of these 15% are forbidden non-unique transitions, which energy spectrum shapes are sensitive to nuclear structure. It is noteworthy that the remaining ~85% of the transitions in the ENSDF database are assumed to be allowed in the evaluation process, namely for the calculation of the mean energies or the capture probabilities. Many more forbidden non-unique transitions are therefore hidden by our lack of knowledge on spins and parities of the nuclear levels.

In this contribution, we will present our recent inclusion of realistic nuclear structure within beta decay calculations, focusing specifically on the forbidden non-unique transitions. The predictions are compared to recent high-precision measurements of first (^{151}Sm, ^{176}Lu), second (^{36}Cl, ^{99}Tc) and third (^{87}Rb) forbidden non-unique transitions. The sensitivity of the predictions to the Coulomb displacement energy, when applying the Conserved Vector Current hypothesis, and to the effective values of the weak interaction coupling constants will be highlighted.

[1] S. Turkat, X. Mougeot, B. Singh, K. Zuber, Atomic Data and Nuclear Data Tables 152 (2023) 101584

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Status of JUNO's Taishan Antineutrino Observatory

Author: Ruhui Li[1]

[1] *IHEP*

Taishan Antineutrino Observatory (TAO) is a satellite experiment of JUNO. It consists of a ton-level liquid scintillator detector at around 44 meters from a reactor core of the Taishan Nuclear Power Plant. It detects reactor antineutrinos by inverse beta decay (IBD). Silicon photomultipliers which have ~95% coverage and ~50% photon detection efficiency are used to collect photoelectrons, resulting in the light yield is ~4500 photoelectrons per MeV. Dark noise of SiPM is suppressed by orders of magnitude by cooling the detector down to -50 degrees. The main goal of TAO is to get the precise energy spectrum of reactor antineutrinos with very high energy resolution (<2% at 1 MeV). It will deliver a reference energy spectrum for JUNO to reduce the impact from the reactor antineutrino flux and spectrum model uncertainties, and provide a benchmark to nuclear databases. In addition, TAO can also search for light sterile neutrinos with a mass scale around 1 eV and help to verify of the technology for reactor monitoring and safeguard.
This talk will show the latest status and prospect of TAO detector.

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Pandemonium free data for the prediction of the antineutrino spectrum in reactors

Author: Alejandro Algora[1]

[1] *IFIC (CSIC-Univ. of Valencia)*

On behalf of the TAGS and eShape collaborations

Beta decay measurements that can provide data free from the Pandemonium effect [1] have shown to be very important in relation to the prediction of the antineutrino spectrum for reactors [2,3]. In this talk I will provide a summary of recent results obtained by our group in the application of the total absorption technique. I will also present a new setup recently developed for measurements of the shape of the beta spectrum of the most important contributors to the reactor antineutrino spectrum [4]. These measurements are considered of great relevance in this context [5] and can allow the validation of theoretical models used in the calculations of antineutrino spectra from reactors.

[1] J. C. Hardy et al., Phys. Lett. B 71, 307 (1977)
[2] M. Fallot et al., Phys. Rev. Lett. 109, 202504 (2012)
[3] M. Estienne et al., Phys. Rev. Lett. 123, 022502 (2019)
[4] V. Guadilla et al., JINST 19, P02027; G. Alcalá et al.; EPJ Web of Conferences 284, 08001 (2023)
[5] Technical Meeting on Antineutrino Spectra and Applications,

International Atomic Energy Agency (IAEA),2019), INDC-NDS-0786 Report (2019); 2nd IAEA Technical Meeting on Nuclear Data Needs for Antineutrino Spectra Applications, IAEA (2023); A. Sonzogni et al. Rev. C 91, 011301 (2015).

Reactor antineutrino experiments II / 16

Recent results from the NEON experiment (Neutrino Elastic-scattering Observation in NaI)

Author: Chang Hyon Ha[1]

[1] *Chung-Ang University*

The NEON experiment aims to detect coherent elastic neutrino-nucleus scattering (CEvNS) from reactor antineutrinos.
Located 23.7 meters from the 2.8-GWth reactor core at the Hanbit nuclear power plant, NEON uses a 16.7 kg NaI crystal array as its target material.
Since April 2022, NEON has collected over 1,000 days of physics data, with 78% recorded during reactor operation and 22% during reactor-off periods.
Leveraging advancements in NaI crystal detector technology, the detector has demonstrated stable performance, surpassing expectations with an unprecedented light yield of 25 photoelectrons per keV energy deposit.
As a result, a single-hit background rate of 7 counts/day/kg/keV at 0.6 keV has been achieved.
This presentation will provide an overview of the NEON experiment within the context of nuclear reactor neutrino physics, highlight recent achievements in dark sector particle searches, and discuss future plans for CEvNS observation.

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DANSS detector status and upgrade

Author: Mark Shirchenko[1]

[1] *Joint Institute for Nuclear Research*

The DANSS experiment at Kalininskaya NPP is running for already 8 years since April 2016. The largest in the world in the single experiment statistics of 9,3 million inverse beta decay events is collected. The data sample covers 4 full cycles of the industrial power recator. DANSS experimental program includes both a search for physics beyond the Standard Model, like sterile neutrinos or large extra dimensions, and applied studies connected to reactor monitoring using electron antineutrino flux. The model independent exclusion area in the sterile neutrino parameter space for 3+1 hypothesis extends till sin2θ = 0.004 for Δm = 0.9 eV,
where sensitivity of the experiment is the best. The remote industrial reactor monitoring allows us to determine the power of the reactor with an accuracy of 1.3% for the three days of measurement.
Along with ongoing statistics collection DANSS is preparing for an upgrade, which shall significantly improve its energy resolution and also increase the fiducial volume.
The talk covers recent analysis results and the upgrade status.

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WIND(Water In Neutrino Detectors) Project

Author: Siyeon Kim[1]

[1] *Chung-Ang University, Seoul*

WIND is a plan to deploy a Water-based Liquid Scintillator (WbLS) detector at the Yonggwang reactor RENO far detector facility. The project aims to use WbLS for reactor neutrino detection with excellent precision, both in energy resolution and directionality, while also exploring the potential for advanced neutron tagging and background suppression. The "hybrid"neutrino detection technology leverages both Cherenkov and scintillation signatures simultaneously, offering powerful detector capabilities and extending physics goals beyond that of current experiments.

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The Angra Neutrinos Experiment and Its Contribution to IAEA Nonproliferation Safeguards

Author: Ernesto Kemp[1]

[1] *Universidade Estadual de Campinas*

The Angra Neutrinos Experiment utilizes a water Cherenkov detector operating at the Angra dos Reis nuclear facility in Brazil. Its primary purpose is to detect electron antineutrinos emitted by the nuclear reactor, aiming to demonstrate the feasibility of using such a detector to monitor reactor activity. This objective aligns with the International Atomic Energy Agency (IAEA) program dedicated to identifying novel technologies and broadening the range of possibilities applicable to nonproliferation safeguards.
Operating the experiment at surface level increases noise, which requires highly sensitive detectors. These conditions make the Angra experiment a valuable platform for testing experimental approaches and refining analysis techniques in a realistic operating environment. The detector incorporates a water-based target doped with gadolinium to enhance its sensitivity to antineutrino detection.
In this presentation, the principal components of the detector and its electronic systems are described, with emphasis on the custom front-end and data acquisition modules. The data acquisition strategies are discussed, along with the methodologies employed for signal processing and event selection. Using the ON-OFF analysis, an excess was observed in the positron energy spectrum of the inverse beta decay candidates, demonstrating that, even when operating at the surface, a robust water Cherenkov detector can be effectively used to monitor the reactor state.

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Double Chooz: latest lessons & results for reactor antineutrino detection.

Author: Thiago Bezerra[1]

[1] *University of Sussex*

This presentation will highlight the latest results from the Double Chooz experiment at the EDF Chooz nuclear reactor in France. By utilizing full reactor power modulation data, Double Chooz achieves world-leading precision in reactor flux measurement and spectral characterization. Key findings, initially focused on the neutrino mixing angle θ_{13}, demonstrate significant advancements in reactor antineutrino detection and monitoring during reactor on/off cycles. These results provide crucial insights for future antineutrino detection technologies.

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Update of the summation calculations for reactor antineutrino spectra

Author: Muriel Fallot[1]

[1] *Subatech (CNRS-in2p3, Nantes Univ., IMT Atlantique)*

For the (NA)²STARS collaboration

The accurate determination of reactor antineutrino spectra remains a very actual research topic for which interrogations have emerged in the past decade. Indeed, after the "reactor anomaly"(RAA) [1] –a deficit of measured antineutrinos at short baseline reactor experiments with respect to spectral predictions –the three international reactor neutrino experiments Double Chooz, Daya Bay and Reno have evidenced spectral distortions in their measurements w.r.t the same spectral predictions (Shape Anomaly)[2]. This puzzle is called the "shape anomaly". The latter predictions were obtained through the conversion of integral beta energy spectra obtained at the ILL research reactor[3]. Several studies have shown that the underlying nuclear physics required for the conversion of these spectra into antineutrino spectra is not totally under control[4]. The unique alternative to converted spectra is a complementary approach consisting in determining the antineutrino spectrum through nuclear data[5,6]. In the past years, the reactor neutrino experiments such as Prospect [7], STEREO [8] and Daya Bay [9] have published in 2023 their analysis with the complete statistics of the measured data. The outcome of these analyses, combined with the work carried out in experimental nuclear physics with the Total Absorption Gamma-ray Spectroscopy measurements in particular [10, 11, 12], is that the sterile neutrino hypothesis is strongly disfavored to explain the RAA, but that further efforts remain to be made both theoretically and experimentally to fully understand the origin of RAA and shape anomaly, and that accurate predictions of antineutrino fluxes and spectra are still needed for future discoveries. Indeed the Daya Bay collaboration provided the first measurement of the high energy part of the reactor antineutrino spectrum above 8 MeV. In addition, the Juno-Tao [13] experiment will perform a measurement of reactor antineutrino spectra with unprecedented energy resolution that will allow to tackle the contribution of specific fission products and constrain potentially nuclear data with the measured antineutrinos. The summation method based on the nuclear data will be the privileged tool to interpret these measurements. At this conference, we propose to present an update of our summation calculations with a focus on the impact of the most recent TAGS results and in the context of the afore mentioned reactor neutrino experiments.
The European TAGS collaboration is aiming to build a Total Absorption Spectrometer (TAS) of the next generation. We will also present this new instrument, called STARS (Segmented Total Absorption with
higher Resolution Spectrometer), that will ally efficiency with a higher segmentation and energy resolution than the existing TAS spectrometers thanks to the addition of 16 LaBr3 crystals. The two segmented TAS
that exist in Europe that will benefit from this upgrade are DTAS detector (18 NaI crystals [14]) and the Rocinante detector (12 BaF2 crystals [15]). The scientific advances that will be made possible will concern nuclear structure, nuclear astrophysics, neutrino and reactor physics, topics to which the TAGS technique has proven to bring significant advances [11].

[1] G. Mention et al., Phys. Rev. D 83, 073006 (2011)
[2] Double Chooz and Reno Collaborations in Proceedings of the Neutrino 2014 Conference, http://neutrino2014.bu.edu/; Daya Bay Collaboration in Proceedings of the ICHEP 2014 Conference, http://ichep2014.es/.
[3] P. Huber, Phys. Rev. C 84, 024617 (2011).
[4] A. C. Hayes et al., Phys. Rev. Lett. 112, 202501 (2014).
[5] M. Fallot et al., Phys. Rev. Lett. 109, 202504 (2012).
[6] A A. Sonzogni et al., Phys. Rev. C 91, 011301 (R) (2015).

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New calculation of the geo-neutrino energy spectrum and its im-

plication

Author: Yufeng Li[1]

[1] *Institute of High Energy Physics*

The precise calculation of geo-neutrino energy spectra is critical for particle physics and Earth science. This study introduces a novel geo-neutrino flux model by systematically incorporating forbidden transitions and beta-decay corrections in uranium-238 and thorium-232 decay chains, supported by updated nuclear database inputs. Compared to the widely adopted Enomoto model, our approach reveals distinct spectral features: inverse beta decay (IBD) detection shows 4% and 9% yield deviations for uranium-238 and thorium-232 chains, respectively. These discrepancies could induce 10% to 20% variations in geo-neutrino measurements at KamLAND and Borexino experiments. The work establishes a new precision benchmark in geo-neutrino research, significantly advancing detection accuracy.

Introductory talks / 23

Introduction to IAEA-Nuclear Data Section and Nuclear Data Needs for Antineutrino Spectra and Applications

Author: Paraskevi DIMITRIOU[1]

[1] *International Atomic Energy Agency*

A short introduction to the Nuclear Data Section and its activities will be given, with emphasis on nuclear data for reactor antineutrino research and applications.

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Near-field Reactor Antineutrino Experiments and Applications in the US

Author: Nathaniel Bowden[1]

[1] *Lawrence Livermore National Laboratory*

The talk will cover the following:
• PROSPECT: Recent Results and Future Outlook
• Near-field Antineutrino Application Developments in the U.S.

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Overview of Korean Nuclear and Atomic Research

Author: Sung Ho Ahn[1]

[1] *Korea Atomic Energy Research Institute*

An overview of the Korean Nuclear and Atomic Research program will be given.

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IAEA CRP on Updating Fission Yield Data for Applications

A review of the goals, work and deliverables of the IAEA CRP on Updating Fission Yield Data for Applications will be given.