J-PARC Program Advisory Committee for the Nuclear and Particle Physics Experiments at the J-PARC Main Ring v1.3

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Minutes of the 41th meeting held on
January 21 (Wed.) – 23 (Fri.), 2026

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Takeshi Komatsubara (KEK-IPNS, Deputy Director) and Takashi Kobayashi (J-PARC Center, Director)

Figure 1: From left, M. Aoki, Y. Yamazaki, H. Ishino, K. Miyabayashi, J. Stroth, C. Lazzeroni, M. Oka, K. Joo, X. Qian, and T. Yamanaka.

3 Procedural Report

The minutes of the 40th J-PARC-PAC meeting (KEK/J-PARC-PAC 2025-29) were approved.

4 Laboratory Reports

4.1 Welcome and J-PARC Center Report (Takashi KOBAYASHI, J-PARC Center Director)

The J-PARC Director, Takashi Kobayashi, gave a welcome address and presented the operation history in 2025, current status and future plans of the J-PARC Center.

The MLF user operation started on January 21, but was stopped on February 19 due to a small gas leakage around the liquid mercury pump. On April 15, the user operation was resumed at 900 kW after recovery from the gas leakage problem, but on May 16, it was stopped again due to a water leak in the liquid-mercury target. The target was replaced with one with an older design which has a lower beam-power limit. The operation was resumed on November 30 at 780 kW.

The fast extraction (FX) user operation started on February 27 at 830 kW, but was stopped on March 4 due to a He gas leakage in the neutrino target. After the problem was fixed, the FX was operated from November 29 to December 22 with a limited beam power of 660–780 kW due to large beam losses. In January 2026, an MR test operation was done, and with the test 15 shots, a maximum beam power exceeding 900 kW and stable operation at 853 kW were demonstrated.

The slow extraction (SX) beam was delivered to the Hadron Hall at >80 kW from January 20 to February 25, 90 kW from April 21 to May 19, and 88 kW from November 8 to 25.

For the the Hyper-Kamiokande (Hyper-K) project, the groundbreaking ceremony for the Intermediate Water Cherenkov Detector (IWCD) located just outside the J-PARC site was held on November 4. Excavation for the Hyper-K main detector was completed in July 2025, and the construction of the internal vessel has begun.

Construction of the new J-PARC Research Development Building, including pavement and parking, was completed, and users have started working in the building. Regarding the access road to J-PARC, a supplementary budget was approved for JFY 2025, aiming at construction during JFY 2025–2027. Full-scale construction will begin soon.

Kobayashi also shared the preliminary budgetary situation. JAEA obtained a supplementary budget of 2.4 Oku-yen[1] for JFY 2025, and 103.3 Oku-yen for JFY 2026 (1.6 Oku-yen more than for JFY 2025) which allows 150 days (6.8 cycle) of operation. KEK did not receive an additional supplementary budget for JFY 2025, and obtained 52.3 Oku-yen for JFY 2026 (1.79 Oku-yen more than for JFY 2025). For countermeasures against aging equipments, JAEA received 14.2 Oku-yen, and KEK received 4.76 Oku-yen. For Hyper-K, 15.43 Oku-yen was allocated as requested. For the access road, 1.75 Oku-yen was allocated as part of 4.99 Oku-yen in JFY 2025–2029.

A draft operation schedule for JFY 2026 was presented, subject to further discussion. MLF will stop user operation on June 22 to upgrade the gas exhaust system, and MR operation will also stop then. Prior to the autumn beam time, the accelerator group requests five weeks for tuning MR power supplies without beam. In January 2027, there will be no J-PARC accelerator operation due to a major power outage for site-wide maintenance.

4.2 Welcome and Mandate to the Committee (Naohito SAITO, KEK IPNS Director)

The director of the Institute of Particle and Nuclear Studies (IPNS), Naohito Saito, welcomed the PAC members.

He firstly reported that Prof. Toshiyuki Azuma has become the new director of the International Center for Quantum Field Measurement Systems for Studies of Particles and Universe (QUP) of KEK.

Saito highlighted that a groundbreaking ceremony for the IWCD facility was held on November 4, 2025, and the excavation for the IWCD pit had started.

Recent achievements on the MR operation and a mid-term plan were presented. The MR was successfully and stably operated at more than 850kW for FX and

[1]Oku-yen = 10^8 Japanese Yen

more than 92kW for SX. For JFY 2026, no supplementary budget was secured so far, and only less than 4-cycle operation can be secured. Three cycles are allocated before the summer 2026, and thus one cycle is available after the summer. Efforts to increase the beam time are currently being made.

For JFY 2027, a tentative plan is being discussed. The plan assumes four cycles for FX, and one cycle for SX. Additional SX beam time is dependent on additional budget. COMET aims to be ready for beam in January 2028. The Hyper-K experiment is scheduled to start physics data taking in JFY 2028, aiming to discover CP violation as early as possible, under a severe competition with DUNE. The current plan is to give five cycles to FX and one cycle plus additional beam time to SX. The SX beam time includes 8-GeV bunched extraction for COMET, and additional beam time depends on the budgetary situation. Under this difficult situation for SX, it would be necessary to define priorities among approved experiments based on evaluation criteria such as readiness for data taking and data analysis, as well as publication plans.

Saito then reported the recent progress on the Hyper-K project. The excavation of a huge cavern was completed in July 2025, and the water tank is now being constructed. The mass production of 50cm-PMTs is going well. The full-scale data taking is scheduled to begin in JFY 2028.

Saito noted that a proposal for a test experiment, P114, was evaluated by the PAC chair, the chair of Facilities Impact and Financial Committee (FIFC), and the head of the J-PARC Particle and Nuclear Physics Division, and that the proposal was approved as a test experiment, T114. T114 aims to measure atmospheric and T2K beam-induced backgrounds using nuclear emulsion detectors at the Neutrino Assembly Building, in preparation for a future experiment, and it will be conducted in March and April 2026.

Documents submitted to this PAC meeting are: one new proposal for an experiment at the Hadron Experimental Facility (P115 at K1.8), and two reports (E57 and E99). No Technical Design Report for the Stage-2 Approval request was submitted, and thus a FIFC meeting was not held for this PAC meeting.

Saito requested the PAC to evaluate the new proposal along with requests for Stage-1 Status to provide recommendations to the IPNS and J-PARC directors. He also requested the PAC to assess the progress in the ongoing experiments, as well as giving advice on the beam allocation plan in the upcoming fiscal year.

Finally, he introduced the PAC members participating in this meeting and announced that a half of the members, after their four-year term, will be replaced with new members from April, 2026. He warmly thanked the current members for their long-standing strong support.

4.3 J-PARC Accelerator Status (Yoichi SATO, J-PARC/KEK)

Yoichi Sato reported on the current operational status, recent achievements, and future plans of the J-PARC Main Ring (MR) accelerator, with emphasis on beam power ramp-up for both FX and SX.

The beam power has been steadily increased by increasing the repetition rate of the acceleration cycle and the number of protons per pulse. These were made possible by major upgrades of LINAC, RCS, magnet power supplies for MR, RF systems, and beam collimators. The FX cycle was shortened from 2.48 s in 2013 to 1.36 s in 2023, and to 1.28 s in 2025. The SX cycle was shortened from 5.20 s in 2018 to 4.24 s in 2024.

Sato explained the MR-FX status. During November–December 2025, FX user operation reached 750 kW, with demonstration runs at 800–830 kW. After further beam studies and maintenance, stable NU user operation at 850 kW was achieved in January 2026 using the 1.28-s cycle. A 900 kW–class demonstration (910 kW equivalent) was successfully performed on January 19, 2026, with improved beam loss control achieved by adopting new-arc beam optics. These optics significantly reduced systematic resonance effects and have demonstrated lower loss ratios and better loss localization than the optics used before March 2025. Extensive beam tuning efforts including LINAC/RCS optimization, optics correction, tune scans, intra-bunch feedback tuning, and collimator balancing have contributed to the stable and high-power operation. Simulation studies and experimental results indicate that the operating region below the $2\nu_x - 2\nu_y$ resonance line is promising for reaching 1 MW-class FX operation with an acceptable beam loss.

Sato next reported on the MR-SX status. A stable Hadron (HD) user operation at 90–92 kW was achieved in April–May 2025, with a successful demonstration of 101 kW in May 2025, which meets the proposed beam power for SX-HD. High extraction efficiency (∼99.6–99.7%) and a high spill duty factor (∼ 83%) were maintained. In November 2025, following the summer shutdown, SX-HD operation reached up to 88 kW with a short tuning time, despite challenges such as vacuum scrubbing near the new septa in the FX area. Beam tuning plan for spring 2026 aims to establish a stable HD operation above 90 kW and to progress toward routine 100-kW-class user operation, with further improvements in the spill structure and beam stability. Key measures for maintaining good beam quality at higher intensities include the use of second-harmonic RF during injection to flatten the longitudinal beam distribution, and full utilization of upgraded MR collimators to enhance beam loss localization.

Sato then described the MR maintenance, upgrades, and schedule. During the 2025 summer maintenance period, major work was completed as scheduled, including RF unit reinforcement, replacement of aging power supplies, improvements on the cooling systems, and replacement of FX and SX septum components. These upgrades have improved the operational reliability and enabled higher reptition rates for the MR.

From January to March 2026, the FX operation aims to establish a stable 900-kW user operation with a 1.28 s cycle, and to continue beam studies targeting 1 MW operation with beam losses below 1%. Looking ahead, the MR mid-term plan targets 1.3-MW user operation by the end of JFY2028. This goal requires further hardware upgrades, including additional RF cavities and power supplies, enhanced main magnet power-supplies, upgraded beam correction magnets, a new beam dump, and improved BPM-DAQ systems. Continuous dry-run testing and beam studies are essential to reduce the beam loss and to increase the beam power and availability.

The beam power has been increased steadily as planned, by systematic hardware upgrades and advances in beam dynamics tuning. Stable NU operation at 850 kW has been established, with ∼900-kW user operation ready in January 2026. For the HD line, a stable ∼100-kW operation has already been demonstrated. Continuing efforts on both equipment commissioning and beam studies will be crucial to achieving the long-term goals of high beam power and high operational availability.

4.4 Hadron Facility Status and Plan (Yoshinori SATO, J-PARC/KEK)

After a brief introduction to the HD beamlines, Yoshinori Sato from the J-PARC Hadron Section presented the summary of the HD beam time in November 2025. The HD beamlines achieved an operation of 1046 kW·days, corresponding to 78% of the plan which assumed 90 kW beam power with 90% efficiency. Major beam down times were caused by a MR BM1 power supply problem lasting 31 hours, and a RCS vacuum trouble lasting 34 hours. The achieved user time was 296 hours, corresponding to 71.6% of the plan. The maximum beam power reached was 88 kW, less than the 92 kW achieved during the previous beam time, due to a shortage of beam tuning time. During the November run, the HD encountered a temperature problem in a subtunnel during a 24-h B-line operation. Cables for 50 power supplies pass through the airtight subtunnel. The expected heat load is 2.8 kW for A-line-only operation, but increases to 7.2 kW for A+B operation, while the air conditioner in the region has a cooling capacity of only 4.5 kW. An upgrade of the cooling power should therefore be considered. Many air conditioners are more than 20 years old, and upgrading them should be seriously considered. The temperature in the HD power-supply building exceeded 40 degrees during the B-line operation. An additional air-conditioning system with a 64-kW cooling capacity will be installed by the end of March 2026.

Sato then presented the plans for JFY 2026. The K1.8BR area will be rearranged for E80. The Hyperon Spectrometer (HypTPC) which was used by E72, E104, and E45, will be replaced by a new superconducting magnet for E80 during the next summer shutdown. Polarity changers, funded by the K-Pro budget, will be installed on all the power supplies for the B-line during the 2026 summer shutdown. As a result, negative secondary particles will become available in the B-line experimental area.

Sato also provided information on the current production target. So far, the target has been irradiated by a total of 1.8×10^{20} protons. The target lifetime is determined by the high-cycle fatigue caused by the spill-by-spill temperature cycle. The peak temperature of the gold target increases linearly with beam power, reaching 300°C at 92 kW. Compared to calculated values, the observed temperature-rise shows a gradual increase with the number of irradiating protons, suggesting a radiation damage to the target. The maximum beam power for normal operation must be set taking this effect into account, resulting in 96 kW (=115 kW / 1.2), up to 2×10^{20} POT. It is desirable to have a spare target with the same design to prepare for potential problems with the current target, since the new rotating target will require several more years of R&D.

Sato also explained the R&D efforts on the new rotating target. As the cost of gold continues to increase, a fully tungsten rotating target is being considered as a viable option, aiming at a beam power exceeding 150 kW. The strength of rolled pure tungsten was measured and found to be direction dependent, with unexpectedly weak strength in the thickness direction. FEM analysis indicates a maximum temperature of 380°C and a maximum thermal stress of 150 MPa, with 65 MPa in the thickness direction. The estimated fatigue stress in the thickness direction is 1.7 times higher than the allowable stress amplitude based on the measurement, and thus not acceptable. Possible solutions under consideration include optimizing the disk shape, trying tungsten from another supplier, or using tantalum, which has been adopted at CERN in a similar case.

5 Evaluations of the Proposals and Status of the Ongoing Experiments

5.1 P115 ($\bar{d} + {}^{12}$C)

Deferred Decision

P115 proposes an exploratory experiment at the J-PARC K1.8 beam line to investigate antideuteron–nucleus interactions. The primary objectives are to constrain the $\bar{d}$–nucleus optical potential by measuring the ratio of partial to coherent annihilation cross sections and to probe multi-nucleon annihilation mechanisms through high-momentum pion spectra. The PAC appreciates the novelty of the proposed research and notes the distinct lack of experimental constraints currently available in this domain.

After the evaluation, the PAC concludes that the proposal is not yet sufficiently mature to initiate a new experimental program. The committee's primary concern is that the interpretation of the key observables is heavily dependent on specific modeling assumptions, and the proposal does not demonstrate that the resulting physics conclusions would remain robust against reasonable variations of these inputs. In particular, the extraction of the $\bar{d}$–nucleus optical potential relies on transport-model descriptions, such as GiBUU, that have not been validated for antideuterons and do not explicitly include all annihilation mechanisms involved in the physics interpretation.

The PAC notes that the collaboration has already performed beam-parameter optimization studies up to 1.8 GeV/c. However, given indications from the modeling that higher beam momenta may increase the yield, the PAC encourages extending this study to include beam momenta up to approximately 2.0 GeV/c

and quantitatively assessing the trade-offs between increased antideuteron yield, background conditions, and potential changes in sensitivity of the proposed observables to the $\bar{d}$–nucleus optical potential. Increased yield alone should not be assumed to imply improved physics sensitivity.

There are several technical concerns. The strategy to identify annihilation mechanisms via the high-momentum pion tail introduces significant experimental risks:

- **Signal Purity:** This kinematic region is intrinsically low in statistics. The proposal does not convincingly demonstrate that rare backgrounds—such as interactions with the beam pipe, detector material, or mis-reconstructed events—can be quantitatively constrained or cleanly separated from the signal. Given the small number of expected events, even minor, poorly controlled backgrounds could dominate the observed tail, thereby undermining the reliability of the analysis.

- **SRC Assumptions:** Even if a clean high-momentum signal could be established, its interpretation would remain strongly model dependent. While short-range correlations (SRC) are central to the physics motivation, their magnitude and spatial characteristics in antideuteron annihilation remain unconstrained. The proposal relies on specific assumptions regarding SRC fractions and spectral shapes, without demonstrating how the corresponding experimental signatures can be disentangled from these assumptions or from other annihilation dynamics.

Collectively, the strong model dependence, reliance on unconstrained SRC parameters, vulnerability to rare backgrounds, and the large beam-time commitment required by the low antideuteron beam intensity constitute a significant experimental and interpretive risk. Therefore, the PAC does not recommend Stage-1 approval of P115 at this time. The PAC emphasizes that this decision does not reflect a lack of interest in the underlying physics. The committee encourages the collaboration to further develop a strategy that prioritizes observables with significantly reduced dependence to model and SRC assumptions, establishes quantitative control of high-momentum backgrounds, and defines a more clearly staged or reduced-scope approach. A revised proposal that clearly addresses these points would be welcome at a future PAC.

5.2 E63 (Gamma-ray spectroscopy)

The E63 collaboration aims to complete a high-precision measurement of the ${}^{4}_{\Lambda}\mathrm{H}(1^{+} \to 0^{+})$ γ-ray transition, which is the essential mirror counterpart to the E13 result for ${}^{4}_{\Lambda}\mathrm{He}$ that revealed a large and unexplained charge-symmetry-breaking (CSB) effect in the $A = 4$ hypernuclear system. E63 requests 14.5 days of beam time to complete the measurement.

The PAC reaffirms the high scientific priority of this measurement, as keV-level determination of the $^{4}_{\Lambda}$H transition energy is critical for establishing the CSB pattern and for constraining modern ΛN interaction models.

Commissioning data taken in November 2025 demonstrate that the full experimental setup is operational, with clean hypernuclear identification and low γ-ray background near 1.1 MeV. The observed background level of approximately two counts per 10 keV indicates that sufficient signal-to-noise ratio will be achieved with the requested statistics.

The PAC finds the beam-time request well justified and the experiment technically mature and low risk, and therefore recommends allocation of the full requested beam time in JFY 2026 to complete E63, subject to facility scheduling constraints.

5.3 E94 (Λ hypernuclear spectroscopy by S-2S)

E94 aims to measure the Λ-hypernuclei $^{7}_{\Lambda}$Li, $^{10}_{\Lambda}$B, and $^{12}_{\Lambda}$C spectra from the missing mass of the (π^+, K^+) reaction with the high-resolution spectrometer S-2S at the K1.8 beam line. The goal is to investigate charge symmetry breaking in the ΛN interaction within the p-shell region, comparing it with mirror hypernuclei that have been and are planned to be measured at JLab with the $(e, e'K^+)$ reaction. The proponents estimate the total uncertainties in the Λ binding energies to range from 91 to 127 keV, based on the design and current momentum resolutions obtained from preliminary results at J-PARC E70 for $^{12}_{\Lambda}$C. Although the missing mass energy resolution is worse than the originally planned value by a factor of two, the proponents believe this resolution remains sufficient to study charge symmetry breaking in the Λ-N interaction.

In the 40th PAC, the PAC recommended the Stage-2 Approval for E94. At the 41st PAC meeting, following the suggestions by the 40th PAC, the proponents presented the current status of the expected missing-mass resolution, estimated from data analysis of the E70 experiment. They also discussed the current status of theoretical studies of charge symmetry breaking in p-shell Λ hypernuclei, which exhibit significant model-dependent effects, and the potential impact of the E94 experiment.

The PAC acknowledges that the work is ongoing and that the comments from the previous PAC are not yet fully addressed. The PAC expects that, at the next PAC meeting, E94 will present further progress of the analysis for the missing mass resolution estimated from the E70 experiment, and how the understanding of the charge symmetry breaking in the p-shell Λ-hypernucleus is expected to advance in a quantitative manner.

5.4 E72 (Λ^* resonance)

The experiment E72 aims to search for the Spin=3/2 Λ^* resonance in the reaction $Kp \to \Lambda\eta$ with p_K=735 MeV/c. This resonance state is not explained by the standard quark model and it is normally considered to be a molecular state composed of different meson-baryon coupled channels. If the resonance is observed, the experiment also aims to determine its parity. The HypTPC is used to identify the produced Λ hyperon and to measure the angular distribution of decayed particles. The liquid hydrogen target was placed in the experimental area and the detector was commissioned with cosmic rays. The experiment was given the highest priority in the previous PAC. The requested beam time is 13 days: 7 days of physics run + 6 days for commissioning and calibration. Following that, the experiment took place in November 2025. The beam time actually delivered was 10 days in total i.e. 3 days less due to technical problems. The commissioning was conducted successfully during this period. The physics run, however, was shortened from the planned 7 days to 5.5 days and there was no time to take data with an empty target to understand the background. The missing data points in the physics runs are for the two momentum points next to the resonance, i.e. the data set to demonstrate the difference in angular distributions between the resonance and continuum regions. The PAC recommends proceeding with the missing 1.5-day physics run and a 0.5-day empty-target run, in addition to the 2-day set-up and commissioning time which is common to E72, E45, and E104 experiments using the same detector and target. The PAC also asks the experiments to consider having the empty-target run to be in a sequence with that requested from the E45 experiment in order to minimise the time for the target removal and re-installation.

5.5 E104 (Double ϕ production)

E104 proposes to use for the first time antiproton beam on a liquid H_2 target to study double ϕ production in the channel $\bar{p}p \to \phi\phi \to 2K^+2K^-$ near the threshold. Unexpectedly large cross sections have been found in a measurement by the JETSET collaboration in the 1990's. This observation certainly violates the OZI rule while the actual production process is unknown. The goal of E104 is to measure the excitation function in fine steps just above threshold and to provide sufficient statistics to enable a partial wave analysis. The measurement is planned with the HypTPC setup at the K1.8BR beam line. The setup can be used in the same configuration of the E72 experiment with only changes to the trigger condition. Likewise, the reconstruction software developed for E72 can be used. Running shortly after E72 is completed would further lower the effort as calibrations can eventually be used for both experiments. It is expected that, after a successful data taking, the path to final results is straight forward. The HypTPC setup has demonstrated already that the reconstruction of hadronic final states expected in the experiment is feasible with high precision. Antiproton beam has already been established in short machine commissioning runs with momentum of around 1 GeV/c and intensity of $3 \times 10^5 \bar{p}$/spill. Detailed simulation studies have been performed to establish a trigger with high efficiency for double-ϕ production while suppressing substantially abundant multi-pion final states. Advantage is taken from the particular phase space distribution of kaons from $\phi \to K^+K^-$ decay given the small Q-value of the decay. The combination of the momentum measured with TPC and time-of-flight measurement provides excellent PID and enables the reconstruction of the four-kaon final state from double-ϕ decay with high selectivity and purity.

In the 40th PAC meeting it was requested to study the feasibility of conducting a partial wave analysis of the final state to provide additional information instrumental in pinning down possible production scenarios. Such studies were undertaken using the code PAWIAN and results have been published in Phys. Lett. **B866**, 139528 (2025). It is clearly demonstrated base on Monte Carlo closure studies, that the anticipated statistics will provide a data basis sufficient for meaningful partial waves analyses.

The PAC is impressed by the work done and is confident that the experiment can be carried out efficiently and with a prospect of a fast production of scientific results.

The PAC recommends to grant the requested run time (10+0.5+2 days) in the sequence of operation as suggested by the collaboration, i.e. with at least 6 days of beam on target right after E72 has finished, but ideally all 10 days in one go. The opportunity to have a common commissioning of the two runs (E72 and E104) during two days before the start of E72 will spare integral beam time. Only half a day of individual setup time is requested right before start-up of E104 data taking. It is emphasized again that postponing some of the data taking could generate a conflict with the planned refurbishment of the K1.8BR experimental area.

5.6 E45 (3-body hadronic reactions)

The E45 experiment aims to measure the reactions $\pi N \to \pi\pi N$, and $\pi N \to KY$ in order to identify and characterize nucleon resonances up to 2 GeV using partial wave analysis, thereby providing a deeper understanding of non-perturbative QCD. The experiment obtained Stage-2 approval based on the PAC recommendation at the 26th PAC meeting.

E45 conducted its experiment in November 2025 at K1.8BR immediately after E72, but obtained only 16 minutes of commissioning beam time due to accelerator downtime. Despite the very limited beam time, E45 observed a high trigger rate caused by background events originating from multiple beams and upstream interactions. However, E45 expects that the effective beam rate can be reduced by approximately an order of magnitude through offline event selection. The PAC acknowledges that E45 has satisfactorily addressed all the homework assigned at the previous 40th PAC meeting.

Since the allocated beam time was extremely short, E45 requests additional beam time in April, immediately following E72 and E104: 1.5 days for commissioning, 2.5 days to cover the third resonance region, and an additional 4.5 days to cover the lower mass range.

E45 emphasizes that beam time in April is critical, as the detector setup and manpower can be maintained in continuity with E72. Furthermore, relocating the experimental setup to the K1.8 beam line, where the HypTPC will be available, requires approximately six months. In addition, physics data on $\pi\pi N$ interactions are essential for developing and validating analysis methods prior to the future high energy run at K1.8.

The PAC recommends granting E45 the requested beam time of 2.5 days for the third resonance measurements with the common commissioning time of 2.0 days with E72 and E104.

5.7 E16 (Vector meson in nucleus)

E16 is an experiment designed to measure line-shapes of vector mesons embedded in nuclear medium. Its goal is to repeat measurements conducted at KEK (KEK-PS E325) where a shoulder was observed at the low-mass side of the ϕ meson invariant mass distribution reconstructed in the dielectron channel for the heaviest target investigated. The actual modifications of vector meson's spectral distributions in medium, with a potential shift of the strength towards lower mass, and their interpretation in terms of a partial restoration of chiral symmetry, is still an open issue. A significant measurement of such modifications would be a break through. An important aspect is to observe vector mesons with target-like rapidity in order to enhance sensitivity to medium effects. "Fast" vector mesons will decouple from the medium and mostly decay outside the nuclear medium. The strategy of E16 is to use a 30 GeV proton beam to maximize production cross section and to enhance recording of low-rapidity vector meson decays by a tailored acceptance and off-line analysis cuts.

During the 40th PAC meeting, the group presented a ϕ signal reconstructed in the dielectron channel. Yet, the signal yield fell way below the expectation. This could be traced back to a noise issue in a set of GEM trackers (GTR3). High thresholds to limit random triggers reduced also significantly the dielectron trigger efficiency. For the run in November 2025, the GTR3 modules were replaced by a four-layer GEM providing higher gain.

Moreover, the width of the then reconstructed invariant mass distribution was significantly broader than anticipated (reference in TDR). However, the results were obtained without final fine tuning of the alignment and calibration. It was concluded that a measurement of the vector-meson line shape is in principle feasible with the existing setup. A total of 300 hours of beam on target was approved in the 40th PAC meeting to verify the performance of the system.

During the scheduled beam time in November 2025, a total of 144 hours of beam was delivered on target. A rough estimate based on the assumption of a 2 kHz trigger rate and a cycle time of 4.24 s reveals that $\approx 2 \times 10^8$ events should have been recorded. While some online data processing has been done, decisive results of that test run could not be prepared for the 41st PAC meeting. It was later communicated that tracking performance has been achieved enabling e.g. a reconstruction of the reaction vertices with a precision allowing to separate individual target slabs, and also to reconstruct interactions in wire targets implemented for alignment purposes.

While in the laboratory frame the opening angle of the targeted dielectrons is large, the phase space distribution of recorded electrons and positrons is forwardpeaked due to the substantial Lorentz boost. The proposed run time of 300 hours has been decided based on the need to observe significant statistics also in the backward detector stations. A timely completion of the run with additional ≈ 150 hours is therefore recommended. This decision has also been taken in view of the fact that beam in the B-line can run in parallel to other beam lines in the Hadron Hall, while being aware of the substantial extra power budget needed for running the B-line and the spectrometer magnet. It is suggested to take any effort to produce meaningful plots demonstrating the performance of the system based on the already existing data to support the decision of the PAC. It should also be considered to look for e.g. neutral kaons, even if the trigger suppresses such events and the tracking is not yet optimized to reconstruct tracks not originating from the targets. The PAC emphasizes the importance of demonstrating the capability of reconstructing vector-meson line shapes with high precision, and with detailed understanding of the shape based on GEANT simulations, as this is the prerequisite of any discussion of possible medium modifications.

5.8 T113 (Radiography with muon beam)

The T113 team proposes a test experiment for muography, i.e., radiographic imaging using multi-GeV muons at the B-line. Muography exploits the fact that high-energy muons undergo multiple Coulomb scattering when traversing dense materials. The standard deviation of the scattering-angle distribution, for a given muon momentum, provides information on the radiation length, enabling the identification of the presence, position, and shape of dense materials through a back-projection method. This proposed application of high-energy muons can potentially establish a novel platform for interdisciplinary research.

At the previous 40th PAC meeting, the PAC requested that T113 provides a quantitative estimate of the statistics required to achieve the spatial resolution necessary to reconstruct and determine the position and size of iron bars embedded in a concrete block. T113 has performed simulation studies and demonstrated that the target structure can be reconstructed with the required precision using 5 million events and 16 rotation angles. Based on the expected muon flux, T113 requests a total beam time of 84 hours for further experimental demonstration. The PAC recommends granting T113 the requested beam time.

5.9 E100 (Neutron lifetime)

The E100 experiment at MLF BL05 aims to measure the neutron lifetime using the beam method, with a target precision of 1 second. This effort is strongly motivated by the long-standing 4.6σ discrepancy (approximately 9.5 seconds) between neutron lifetime measurements obtained using the beam and bottle methods. A recent result from the E100 collaboration, based on the data collected between 2014 and 2023, and submitted to arXiv (arXiv:2412.19519), reports a neutron lifetime of $\tau_n = 877.2 \pm 1.7\,(\text{stat.})^{+4.0}_{-3.7}\,(\text{sys.})$ s, which is consistent with the world average from bottle experiments and exhibits a 2.3σ tension relative to the beam-method average. This result represents a significant achievement and an important milestone toward resolving the so-called neutron lifetime puzzle.

The PAC notes that analysis of existing data continues, including studies using different gas pressures and operating conditions. These ongoing analyses are important for understanding residual discrepancies among data subsets and for further controlling systematic uncertainties. The PAC encourages the collaboration to continue reporting clearly on the status and outcomes of these analyses as they mature.

The PAC congratulates the collaboration on the substantial progress achieved during the past cycle in addressing the two remaining critical experimental challenges. In particular, the collaboration significantly reduced veto-induced dead time by updating the cosmic-ray veto system, replacing the previous overly aggressive logic with a more selective configuration. While the resulting increase in live time represents a major improvement, the PAC encourages the collaboration to report a quantified veto efficiency. At present, the observed rates appear broadly consistent with expectations based on the estimated cosmic-ray muon flux, but this has not yet been translated into a formal efficiency determination. The PAC also notes the progress in background suppression, especially the reduction of γ-ray background originating from the spin-flip chopper achieved via the installation of an upstream lead collimator. The background associated with ^{20}F measured at zero magnetic field has been reduced by approximately a factor of two, although further reduction is still needed to reach the design goal. As analysis of data taken with a magnetic field of 0.6 T continues, the PAC encourages continued efforts to understand the residual background, including examining whether contributions beyond ^{20}F may be present. Finally, the PAC finds the overall experimental and analysis plan presented by the collaboration to be sound, and looks forward to reviewing an updated Technical Design Report at a future PAC meeting.

5.10 E03 (X-rays from Ξ^- Atom)

Following the report at the 40th PAC, the PAC received a summary of the results from the initial Ξ^--atom X-ray experiment at K1.8, which was conducted with 10% of the planned beam time due to MR power limits. During 2020-2021, approximately 9.5×10^{10} kaons were collected, and the initial analysis found no significant X-ray peaks near the expected energies, setting an upper emission probability limit of 0.19 at 90% confidence level, which is significantly lower than the theoretical expectation of 0.3.

The PAC recognizes the ongoing data analysis and the collaboration's effort to interpret the observed low yield as resulting from $\Xi^- p - \Xi^0 n$ mixing, which may explain the suppression of the X-ray transitions. The effect may be particularly relevant in Fe targets, and it is important for future experiment projects to examine this conjecture.

The PAC strongly urges completing the analysis of existing data to establish reliable upper limits before planning any additional measurements. The PAC anticipates receiving a detailed written report at a future PAC meeting.

5.11 E34 (g-2/EDM)

E34 aims to measure the anomalous magnetic moment and electric dipole moment of the muon at the J-PARC MLF H-line using a novel technique that employs a cold surface-muon beam, muon acceleration, and injection into a compact storage magnet. This method offers an opportunity to measure the muon g-2 with systematic effects distinct from those using the magic-gamma approach. The experiment has a strong support from the theory community, as evidenced by a support letter with over 260 signatories submitted to the KEK Director General endorsing the J-PARC muon g−2/EDM experiment as a critical and complementary measurement to the completed Fermilab muon g−2 program. The E34 baseline EDM sensitivity is 450 ppb. Ways to achieve an improved precision of 100 ppb are being investigated.

At this PAC meeting, a growth in the Collaboration was reported, by the addition of five teams from INFN and OMU. The third series of the Progress Review by IPNS took place in April 2025. Two issues were identified: the design to ensure high efficiency for the muon-beam injection to the storage ring magnet; the mitigation of the noise in tracking sensors induced by the kicker magnet; and a campaign of cost reduction. The status of the studies on these issues was presented at this PAC meeting, together with a general update of the project status. Regarding the last point, in December 2025 the collaboration has endorsed a step approach, involving the construction of the muon accelerator with a half-size building as the first step (2027-2031), and improvements in experimental precision as the second step (after 2031).

Recent developments include the installation of beamline components (beam profile monitor and beamline slit). Three test experiments at MLF were conducted since the last PAC meeting: surface muon beam commissioning, cold muon source, and positron tracking detector. The laser system was installed in November 2025 and commissioned in Dec 2025 - Jan 2026, successfully confirming the ultra-slow muon production. The first H2 beam was realized in April 2025, and was further commissioned in November (beam intensity and size, polarization, momentum spread). In December, the ultra-slow muon rate was limited due to the laser power lower than planned. Next studies are planned in early 2026, with increased laser power. Regarding muon acceleration, RFQ was installed in the H2 beam line for JFY 2026 operation. Prototyping of the downstream accelerators and design studies for a new configuration with reduced cost are being made, including radiation and shielding studies and development of beam monitors. Regarding the beam injection mechanism, a new 3D injection scheme to inject muon beam into the compact storage orbit is being devised for E34. Possible extensions of the baseline method are being considered, to include for example transverse coupling. The design of the beamline kicker is also under consideration, to reduce the residual field in order to meet the severe requirement from physics. Also studies are ongoing to realize a precise beam control from the 3D injection scheme. Studies on reducing the He storage volume of the MRI-type superconducting solenoid magnet used to store the muon beam are continuing. Finally, the production of the positron detector is in progress, including studies to reduce residual current from a kicker coil using a specially-designed cut-off switch. The analysis is also progressing, with current emphasis on the impact of the residual electric field and of the detector thermal expansion.

The PAC congratulates E34 for the significant progress of the project, including the successful production of ultra-slow muon in the H2 area. The PAC acknowledges the effort for realizing the experiment, which involves several aspects (consolidation of the muon source, the accelerator and the detector). The PAC reiterates that a timely realization of the E34 project is crucial, as it is awaited by multiple communities. The low-emittance muon beam can be used not only for the proposed muon g-2 and EDM measurements, but also for other projects including demonstration of positive muon acceleration for future accelerators. At the next meeting, the PAC would welcome a more detailed timescale for the first and second steps of the experiment as a part of the general update.

5.12 E21 (COMET)

The COMET experiment is designed to search for a muon converting into an electron without emitting any neutrino inside an aluminium target at a new C-line in the Hadron Experimental Facility. The original strategy involved two phases, Phase-I with beam power of 3.2 kW, and Phase-II with 56 kW. Phase-I would achieve a sensitivity 100 times better than the current limit.

While Phase-I has received the Stage-2 Approval, to ensure collection of some data as soon as possible, a revised schedule (Phase-1 LI) was devised, reducing the beam power to 10% of the Phase-I original, and using less iron shielding to reduce cost. Phase-1 LI would reach a SES comparable to the current limit. The COMET data taking is mutually exclusive to both FX and SX operations.

A Review Committee for COMET, commissioned by PAC, was held in 2024. The final Review Report was produced in September 2024 and preliminary findings were presented to the PAC in July 2024. Also, the COMET Promotion Task Force is closely following the progress of COMET. Among other points, the review recommends taking data as soon as possible at low intensity (Phase-1 LI), and that the collaboration and the laboratory continue to work together to ensure that the necessary funding is secured for the realization of Phase-1 LI. At the July 2024 meeting, the PAC agreed that taking data at a reduced intensity in Phase-1 LI as early as possible is the correct strategy at this point. Subsequent COMET Phases will be eventually discussed in future.

The collaboration aims to start the Phase-1 LI experiment at the beginning of 2028. Concerning the beam line, an additional collimator system for the muon beam line was designed based on the optimization through simulation, and the system was installed. The detector solenoid and the bridging solenoid, guiding the muon from the transfer line to the detector area, were both installed in November 2025, which will be followed by a field measurement planned in March 2026. With this, all the superconducting magnets have been brought to the COMET area, while work remains on related equipment, such as the proton target and shielding material inside the pion capture solenoid, and some of the cryogenic services.

As for the physics detector for Phase-I (CyDet), the CDC gas system is under construction. Meanwhile the cosmic ray test on site started. The trigger hodoscope (CTH) construction is underway. It is planned that a smaller number of CTH channels, which would suffice for the Phase-I LI, will be produced by the end of 2026. This is the main constraint for the completion of the CyDet. Only the top part of the cosmic ray veto (CRV) detectors will be prepared for the LI run, whose production is underway in JINR and J-PARC. The progress in the beam-measurement detector was also presented. A summary of tasks to be completed for the Phase-I LI run was listed. Many of them are constrained by the availability of financial resources. The collaboration continues efforts to accommodate external financial contributions through a scheme of common fund or as in-kind contributions. The result of the grant applications during JFY2025 will be known before the next PAC meeting.

The PAC congratulates that progress was made in both the areas of beamline and detector, and in the implementation of the Review Report Recommendations. The PAC encourages the collaboration to continue their effort towards the timely realization of the Phase-I LI, in particular their effort of securing necessary financial resources.

Some of the experimental apparatus enter into the commissioning phase. The collaboration is also actively adapting their timeline to the technical and financial situation evolving rapidly. The PAC requests the collaboration to continue to report such updates in forthcoming PAC meetings in a comprehensive manner, possibly with some additional material supplementing the main presentation.

5.13 E14 (KOTO)

The KOTO experiment (E14) searches for the rare CP-violating decays $K_L \to \pi^0 \nu \bar{\nu}$ in the J-PARC neutral beam line. The decay rate is precisely predicted theoretically (3×10^{-11} with about 2% precision) and is sensitive to a variety of new physics models, thus providing an excellent probe for physics beyond the Standard Model.

KOTO received beam lately in November 2025 (Run93), collecting 1.44×10^{19} POT. Basic stability and quality checks have been performed on Run93 data set, which appears to be satisfactory, and the analysis is in progress. The last published result is based on 2021 data set, and data accumulated in the four runs comprising the 2024-25 set are 2.5 times the 2021 one.

The beam structure in Run93 was of the same quality as in the previous run; with more time for accelerator studies, ways to improve it further could be investigated, with a potential significant gain in terms of efficiency of 10%. The DAQ algorithm for waveform compression has been updated, giving a 2.2% reduction in data size, and further compression could be achievable. The performance of the FilmBHCV (installed in Run92 as an additional layer because one original layer became not operational) is adequate, although the light yield was lower than designed.

A concerted effort has been made to estimate and reduce background contributions from K^+, halo K_L, and halo neutron. The K^+-induced background is reduced by a factor of 15 thanks to a newly installed second magnet before the fiducial volume. This initially caused an increase of the halo K_L background, that is however reduced by a change in the UCV thickness, which also reduces the halo neutron background by 30%. A new deep-learning cut against halo K_L to two photons achieves a 6 times better reduction than standard cuts. The deep-learning cut has potential to also reduce other background sources and is being studied. Overall, a background reduction of at least 35% is expected in 2024 data with respect to 2021 data. Finally, the current status of the signal-extraction plot - with the signal region still masked - was presented, and there are no reasons for concern. To reach a sensitivity below 10^{-10} and cross the Grossman-Nir bound, KOTO needs at least 60 days (net) of data yearly at > 80 KW beam power, for 3 years, with a smooth beam spill shape.

The PAC congratulates KOTO for several and significant progresses made on the analysis of recent data sets. The PAC is particularly impressed by the use of the deep-learning algorithm in the analysis, and encourages KOTO to explore it further. The PAC continues to encourage KOTO and the accelerator division to work together to further improve the spill quality. Finally, the PAC endorses KOTO beam request and recommends that beam time for KOTO remains a high priority.

5.14 E56/E82 (JSNS2, JSNS2-II)

The JSNS^2/JSNS^2-II experiment aims for a direct test of the long-standing LSND anomaly using the J-PARC MLF as the source of neutrinos. In this PAC, the collaboration showed the box-opened results using 2022 data. The PAC congratulates this achievement and looks forward to the publication of the result soon.

Adding all the accumulated data until 2024 gives four times larger statistics than 2022 data alone. The PAC encourages the collaboration to complete the analyses in a timely manner and produce new results, accompanied by a clear and realistic plan for the sizable analysis improvements required to reach the design goals.

In addition to the already-taken data, the collaboration has been conducting a new physics run from November 2025, where the MLF is operated at 710 kW. It is good to hear that the liquid scintillator light output has been kept within $\pm 4\%$ during these 6 years.

As for commissioning of the far detector, the beam-induced neutron background is observed. A major source of these neutrons is the BL05 beamline in the MLF. The PAC encourages the collaboration in communication with the experts to find a way to mitigate the neutron backgrounds, and implement it in collaboration with MLF. It is good to hear the ^{252}Cf source calibration system has been implemented and its functionality has been demonstrated.

The PAC endorses the collaboration's request for MLF beam and further urges for the cooperation of the MLF such that the $JSNS^2$/$JSNS^2$-II experiments can reach the sensitivity mentioned in the proposal.

Given a recent suite of sterile neutrino oscillation results from MicroBooNE and KATRIN, the PAC also encourages the collaboration to explore and develop analyses for other models that have been proposed as interpretations of the LSND anomaly.

5.15 E71 (NINJA)

The PAC commends the NINJA collaboration for the steady progress reported for the E71 program. Significant advances were reported in detector operation and reconstruction performance. The PAC also notes the successful deployment and stable operation of the upgraded E71c detector components, including large-scale emulsion production, new shifter and scintillation tracker systems, and high data-taking efficiency during beam exposure. The PAC congratulates the collaboration for its strong experimental execution and sustained momentum.

With regard to the physics goals, the PAC encourages the collaboration to carefully reassess the emphasis on sterile-neutrino searches in light of the broader experimental landscape. Given the null results reported by multiple experiments in recent years, including MicroBooNE's recent Nature publication, the original motivation for a sterile-neutrino–driven ν_e excess appears significantly weakened. In this context, the PAC suggests that greater emphasis may be placed on inclusive and exclusive ν_eCC and ν_μCC cross-section measurements, where NINJA's unique capabilities can provide clear and enduring impact. The fine-grained tracking and low-energy proton sensitivity of the emulsion technique offer a powerful opportunity to address some long-standing questions in neutrino–nucleus interactions, which are directly relevant to oscillation experiments.

Along these lines, the PAC encourages the collaboration to strengthen the connection between experimental measurements and theoretical modeling of neutrino–nucleus cross sections. Increased engagement with the theory community would be valuable to clarify the interpretation of exclusive and inclusive measurements and to assess the sensitivity of NINJA data to different nuclear models. The PAC also encourages continued close collaboration with the T2K experiment to ensure that NINJA cross-section measurements can have direct impact on oscillation analyses. In addition, the PAC views NINJA as an ideal platform for further integration of modern AI/ML approaches in event reconstruction and classification, particularly given the nature of emulsion data. Continued development in this direction could significantly enhance analysis throughput, robustness, and reproducibility.

Finally, the PAC supports the collaboration's structured publication plan and acknowledges the progress already made toward first physics results from the E71 datasets. The PAC anticipates reviewing these results at future meetings and expects that they will represent important contributions to the global neutrino interaction program.

5.16 E83 (SUBMET)

E83 aims to search for low-mass millicharged particles predicted in dark-sector models beyond the Standard Model. The experiment searches for such particles produced by protons hitting the T2K target. The experiment is designed to probe a previously unexplored region of parameter space, with particle masses below 1.6 GeV/c^2 and electric charges smaller than $10^{-3}e$. The detector was installed at J-PARC and the experiment has been collecting data since 2024.

At this PAC meeting, the collaboration reported notable progress in the understanding and treatment of detector-related backgrounds. The PAC acknowledges the detailed study of PMT after-pulses documented in a recent paper, in which a prediction framework based on measurable pulse-area and timing information was developed and validated using dedicated delayed-trigger data.

The PAC notes that the study includes a systematic evaluation of uncertainties in the background estimation. In particular, variations in the single-photoelectron (SPE) selection window were quantified, while other systematic effects were found to be comparatively small.

The PAC recognizes that this improved understanding of detector-related backgrounds provides a more reliable basis for estimating beam-on backgrounds. By incorporating after-pulse prediction into the analysis, the collaboration can quantify after-pulse contributions and make more effective use of the collected data. The PAC looks forward to the early availability of the beam-on analysis results.

5.17 E11/E65 (T2K)

The T2K experiment presented beam, detector, and analysis status and plans for JFY 2026 and beyond, as well as an early preview of a muon neutrino CC inclusive cross-section measurement with upgraded ND280 data and updated oscillation results that are targeted for public release in summer 2026. The PAC was pleased to hear about the great progress as well as the collaboration's responsiveness to recent detector issues—namely the debugging and fixing of the SuperFGD electronics. It was also great to see that the summer 2024 coil upgrades to the far detector paid off, enabling the rapid repair of a failed horizontal coil in summer 2025.

The PAC appreciates that T2K plans to explore improved ML techniques for enhancing reconstruction and selection efficiencies, and thus statistics available for analyses, as well as to explore how efficiency and purity vary for exclusive vs. inclusive selections for various measurements, e.g. the electron neutrino CC cross-section measurement. Additionally, the PAC urges further collaboration between T2K and NINJA for further cross-section model improvements.

The PAC noted that T2K received significantly less than requested JFY 2025 beam time. The current POT projection for cumulative data collection before Hyper-K begins is 8.5×10^{21} POT, which is short of the original 1×10^{22} POT goal. This projection (8.5×10^{21} POT) assumes 88 days of beam in JFY 2026 at >900 kW beam power. Achieving this will be challenging given the planned

8-month shutdown for the T2K beam upgrade to 1.3 MW. Nevertheless, the PAC strongly recommends beam delivery to T2K for JFY 2026 as close to the T2K request as possible (88 days at >900 kW). The PAC also strongly supports the lab seeking additional funding so that T2K (as well as any other experiments) can have beam time as close as possible to their requests.

6 General Remarks and Recommendations

The PAC congratulates the IPNS and J-PARC on their steady improvements made on the facility, including the beam power increase, beam loss reduction, and the development of the new rotating T1 target. The PAC also heard many presentations from experiments describing their progress on preparation, data-taking, analysis, and publications.

Despite many progresses in the facility and the experiments, the PAC was concerned to hear that no JFY2025 supplementary budget for electricity was available, and that it will shorten the secured beam time in JFY2026. This is a major problem for the facility with the highest beam power accelerator in the world.

For the JFY2026, the PAC was asked to give advice on how to assign the limited beam time to experiments under various boundary conditions such as the K1.8BR beamline modification. The PAC appreciates the careful studies on many possible running scenarios done by Nakadaira and Ukai. Among those scenarios, PAC considers their "Scenario B" as the best choice. In "Scenario B", the SX beam time will end on April 28, and then switched to FX. During the April SX beam time (18.3 days), there will be common startup time (2 days), followed by E72 (2 days), E104 (6 days), E45 (2.5 days) in the K1.8BR beam line, and E63 (0.5 + 5.3 days) in the K1.8 beam line. The K1.8BR area modification will be done in the 2026 summer shutdown, followed by the government radiation safety inspection. Although this scenario seems to be the best choice, it is based on compromises for many experiments; E104 and E45 are given only half of their requested beam time, E63 has to postpone half of their beam time to after the summer shutdown, and T2K is given only 66.5 days (75% of their request). These reductions of beam time impact their physics outputs. In addition, extra beam time should be allocated to finish as many experiments as possible before the Hyper-K experiment starts running. It is thus extremely important to get extra budget for JFY2026 to give more beam time to T2K, KOTO on KL line, E63 and E75 on K1.8 line, and E16 on B-line. In addition, KEK should try to establish a more sustainable budget plan to run the facility in the long term.

One suggestion on "Scenario B" is to run the experiments on K1.8BR line before E63 on K1.8 line. This way, even if the full 18.3-day beam time were not available due to an unforeseeable event, all the K1.8BR experiments could still finish taking data before the K1.8BR beam line modification.

The PAC also heard the beam time allocation plan for JFY2027 and beyond, from Saito. Although the PAC understands that KEK has a commitment to run Hyper-K in the quickest manner under global competition, KEK and J-PARC have commitments also to run experiments which were given the Stage 2 Approval. Having only 1 cycle per year for SX will have a large impact on the community using SX, and such scheme may not be practical for some experiments. The PAC strongly recommends KEK to campaign for extra budget to increase the number of cycles for SX.

Considering the limited beam time, Saito suggested evaluating the approved experiments for their readiness for data-taking, analysis, and publication to decide the ordering of the experiments to run. The PAC supports the idea, and considers it to be one of the tasks that the committee could take. However, to make reliable judgments on the readiness, the PAC may request reports from the task forces monitoring the experiments. In addition, the scheduling of running multiple experiments, in particular the ones using the same detector setup, should be planned wisely to maximize the use of the beam time, and such a plan may have to be coordinated by the experimental groups.

The experiments that took data should publish results in a timely manner, and it was good to see the list of publications and publication plans from each experiment. To promote more and timely publications, the PAC would like to suggest making a web page of all the approved experiments, each with a link to the experiment's web page listing its outputs such as publications, talks, and theses. This will also make the experiments more visible to the physics community, funding agencies, and to the general public.

The PAC also notes that it was good to have many presentations given by early-career researchers. This is a good trend, because it offers them an excellent training ground, and it also increases their visibilities. The PAC would like to encourage more experimental groups to give these chances to early-career researchers.

7 Dates for the Next J-PARC PAC Meeting

The next J-PARC PAC meeting will be held in July 2026.

8 Documents Received

For this meeting, the J-PARC PAC received the following documents.

- Minutes of the 40th J-PARC PAC meeting held on July 16 - 18, 2025 (KEK/J-PARC-PAC 2025-29)
- Proposals:
  - P114: Proposal of test experiment to measure the atmospheric and T2K beam related background at the ND280 site ground level using nuclear emulsion detector (KEK/J-PARC-PAC 2026-1)
  - P115: Investigating $\bar{d}+^{12}$C nuclear interactions at the J-PARC K1.8 beam line (KEK/J-PARC-PAC 2026-2)
- Reports:
  - E57: Status report of J-PARC E57 (KEK/J-PARC-PAC 2026-3)
  - E99: Status Report for J-PARC E99 (NOPTREX) (KEK/J-PARC-PAC 2026-4)