Letters of Intent
for
Nuclear and Particle Physics Experiments at the J-PARC

Title and *Contact person(s)*

L01 Measurements of the spin rotation parameters A and R in the resonance region of πN elastic scattering
V.V. Sumachev, S.P. Kruglov, I.V. Lopatin (PNPI, Russia)

L02 Test-beam Facilities at J-PARC
S. Komamiya (U. Tokyo, Japan)

L03 SPIN@J-PARC, Analyzing power A_n in 50 GeV very-high-$P_\perp^2$ proton-proton elestic scattering
A.D. Krisch (U. Michigan, USA)

L04 Study of the Rare Decay $K^+ \to \pi^+ \nu\bar{\nu}$ with Stopped Kaon Beam at J-PARC
T. Komatsubara (KEK, Japan)

L05 Measurement of the $K_L^0 \to \pi^0 \nu\bar{\nu}$ Branching Ratio
T. Inagaki (KEK, Japan)

L06 New Generation Spectroscopy of Hadron Many-Body Systems with Strangeness $S = -2$ and -1
K. Imai (Kyoto, Japan)

L07 Hyperon-Proton Scattering Experiments at the 50-GeV PS
M. Ieiri (KEK, Japan)

L08 High-Resolution Reaction Spectroscopy of $S = -1$ Hypernuclei
H. Noumi (KEK, Japan)

L09 Neutron-rich Λ hypernuclei by the double-charge exchange reaction
T. Fukuda (Osaka E&C, Japan)

L10 Study of Dense $\bar{K}$ Nuclear Systems
T. Nagae (KEK, Japan), T. Kishimoto (Osaka, Japan), M. Iwasaki (RIKEN, Japan)

L11 Electron pair spectrometer at the JHF 50-GeV PS to explore the chiral symmetry in QCD
S. Yokkaichi (RIKEN, Japan)

L12 Neutrino Oscillation Experiment at JHF
K. Nishikawa (Kyoto, Japan)

L13 Hadron Spectroscopy at J-PARC
S. Sawada (KEK, Japan), H. Spinka (ANL, USA)

L14 Construction of a High Momentum Beam Line at the 50-GeV Proton Synchrotron
S. Sawada (KEK, Japan)

L15 Physics of High-Mass Dimuon Production at the 50-GeV Proton Synchrotron
J.C. Peng (U. Illinois, USA), S. Sawada (KEK, Japan)

L16 Study the Kaon Decay physics at JHF
C. Rangacharyulu (U. Saskatchewan, Canada)

L17 An Improved Muon $(g-2)$ Experiment at J-PARC
B.L. Roberts (Boston, USA)

L18 Energy Dependence of Intermediate-Mass Fragment Angular-Distribution
T. Murakami (Kyoto, Japan)

L19 Search for T-violation in K^+ decays
Yu. Kudenko (INR, Russia), J. Imazato (KEK, Japan)

L20 Precise Measurement of the $K^+ \to \pi^0 e^+ \nu (K_{e3})$ Branching Ratio
S. Shimizu (Osaka, Japan)

L21 Precise Measurement of the Nonmesonic Weak Decay of A =4, 5 Λ Hypernuclei
S. Ajimura (Osaka, Japan)

L22 Search for a Permanent Muon Electric Dipole Moment at the 10^{-24} e·cm Level
J.P. Miller (Boston, USA), Y.K. Semertzidis (BNL, USA), Y. Kuno (Osaka, Japan)

L23 Lefetime Measurement of $\pi^+\pi^-$ and $\pi^\pm K^\mp$ atoms to test low energy QCD
L. Nemenov (JINR, Russia)

L24 The PRISM Project – A Muon Source of the World-Highest Brightness by Phase Rotation –
Y. Mori, K. Yoshimura (KEK, Japan), N. Sasao (Kyoto, Japan), Y. Kuno (Osaka, Japan)

L25 An Experimental Search for the $\mu^- - e^-$ Conversion Process at an Ultimate Sensitivity of the Order of 10^{-18} with PRISM
Y. Mori, K. Yoshimura (KEK, Japan), N. Sasao (Kyoto, Japan), Y. Kuno (Osaka, Japan)

L26 Request for A Pulsed Proton Beam Facility at J-PARC
Y. Kuno (Osaka, Japan), R.S. Hayano (U. Tokyo, Japan)

L27 A Study of a Neutrino Factory in Japan (Nufact-J)
Y. Mori (KEK, Japan), Y. Kuno (Osaka, Japan)

L28 A hadron spectroscopy experiment with RF-separated high energy $K^{\pm}$ beam at JHF
V. Obraztsov (IHEP, Russia), T. Tsuru (KEK, Japan)

L29 A branch of Laboratory of Nuclear Studies of Osaka University (OULNS) at J-PARC
T. Kishimoto (Osaka, Japan)

L30 Studies of a Target System for a 4-MW, 50-GeV Proton Beam
K. McDonald (Princeton, USA), H. Kirk (BNL, USA), K. Yoshimura (KEK, Japan), Y. Kuno (Osaka, Japan)