

Date: November 1, 2005  
From: Shoji Nagamiya (J-PARC Project Director) and  
Makoto Kobayashi (Director, Institute of Particle and Nuclear Studies, KEK)  
Subject: Call for Proposals on Nuclear and Particle Physics Experiments at the J-PARC 50 GeV  
Proton Synchrotron

The construction of the Japan Proton Accelerator Research Complex (J-PARC) facility has been underway since 2001. According to the current construction schedule, it is expected that, if the proposed budget is funded smoothly, the first beam from this facility will be available in 2008. Three years ago we collected letters of intent (LoI) for possible experiments. The structure of the Hadron Experimental Hall and the design of the secondary beam-line layout (attached figure) were determined based on the evaluation of these LoI by the Nuclear and Particle Physics Facility Committee (NPFC). In addition to the fast extraction neutrino line, the K1.8 line in the Hadron Hall will be constructed with high priority following the recommendations for the Day-1 candidate experiments by the NPFC.

Because of the necessity to finalize the beam-line installation policy and the time required for the preparation of the experimental equipment, we would now like to call for full proposals. These proposals will be evaluated by the Program Advisory Committee, which will be created in the near future. Physics proposals from all over the world are very welcome at J-PARC.

Although proposals will be accepted at any time in the future, Day-1 experiments as well as some selected experiments to be mounted in the early years of Phase 1 will be considered for submission by the deadline of April 28, 2006.

#### Scope of the Project

- 1) The J-PARC accelerator complex consists of a linac (200 MeV in 2008 and 400 MeV at a later stage) followed by a 3 GeV PS and a 50 GeV PS.
- 2) Since the Phase-1 budget does not include a power storage device for the 50 GeV PS, the beam energies in the initial operational phase will be 40 GeV for fast extraction and 30 GeV for slow extraction.
- 3) At the slow-extracted beam area called the Hadron Hall, the Phase-1 budget allows only a limited number of beam-lines and experiments as shown in the attached figure. A fast-extracted beam line is also being prepared for neutrino experiments.
- 4) After the completion of the Phase-1 project, our plan is to expand the Hadron Hall as a Phase-2 project. Also, an exit for a third extracted beamline has already been prepared for future experiments that require an additional fast-extracted beam.

### Necessary Information to be included in the Proposal

The following items must be included in the document--

- 1) Name of the proposal, collaborating institutions and names of experimentalists, spokesperson(s) and/or contact person.
- 2) Scientific goal(s) and scientific merits, experimental method(s), urgency, expected manpower, *etc.*
- 3) If the proposal is for a spectrometer installation, a list of anticipated experimental programs that will be reviewed later must be described.
- 4) Desired time schedule and detector cost estimate.
- 5) Contributions from the collaboration, including the usage of existing detectors and/or other equipment/devices.
- 6) Specific requests, if any, to the J-PARC facility.
- 7) Other useful information, such as commitments to other experiments, *etc.*

### Other Information

- 1) Deadline: April 28, 2006.
- 2) Proposals should be mailed to:  
Professor S. Nagamiya  
Director, J-PARC Project Office, KEK  
1-1 Oho Tsukuba-shi, 305-0801, Japan  
(or inform [shoji.nagamiya@kek.jp](mailto:shoji.nagamiya@kek.jp) of the location of file)
- 3) Consultation on details:  
Professor J. Imazato  
Group leader, Nuclear & Particle Physics Group of J-PARC, KEK,  
1-1 Oho, Tsukuba-shi, 305-0801, Japan  
E-mail: [jun.imazato@kek.jp](mailto:jun.imazato@kek.jp)  
Fax: +81 298 64 7831
- 4) Process after receiving proposals:
  - The Program Advisory Committee (PAC) will review individual proposals in the late spring of 2006. Oral presentations of all proposals will be requested at the PAC meeting.
  - The PAC recommendations will be made available by the middle of 2006.
  - At the moment, PAC approval does not necessarily imply any immediate financial support for the experiment, since the J-PARC operational structure has not yet been established.
- 5) Personal information:  
Please note that personal information in the proposal will be used only for the purpose of evaluation of the proposed experiment. Names of spokespersons, their affiliation and the titles of the approved experiments will appear in the KEK web pages and publications.