

Japan Proton Accelerator Research Complex (J-PARC)



Ordering party :

- Japan Atomic Energy Agency
- High Energy Accelerator Research Organization

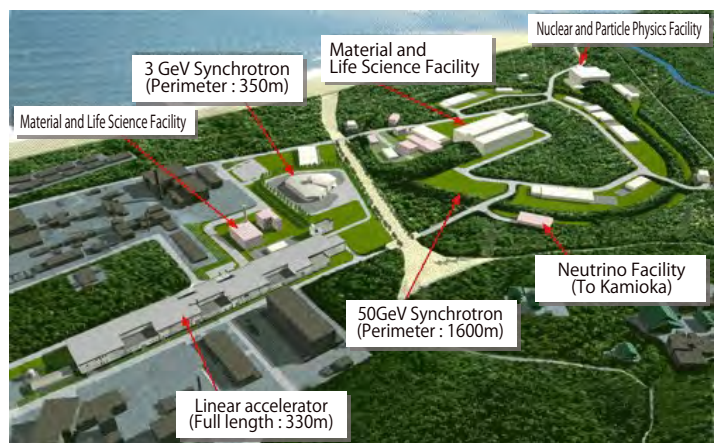
Location : Tokai-mura, Naka-gun, Ibaraki

Main facilities :

- 200MeV Linear Accelerator (Full length : 330m)
- 3GeV Synchrotron (Perimeter : 350m)
- 50GeV Synchrotron (Perimeter: 1600m)
- Materials and Life Science Experimental Facility
- Nuclear and Particle Physics Experimental Facility
- Neutrino Experimental Facility

Services : Basic Design, Execution Design

Time of plan : Scheduled in December 2008



Japan Proton Accelerator Research Complex (J-PARC) is the most-advanced science and technology research institute comprising of the world' s highest level of accelerator that generates high-intensity proton beam and the test facilities that utilizes its beam.

The following are the main design features of the 50 GeV synchrotrons.

(1)Adoption of the pile foundation system

Piles are installed to silty-mudstone layer in consideration of a sever drift limit applied at the time of operating the accelerator.

(2)Adoption of an accelerator tunnel without expansion joints

The accelerator tunnel without expansion joints was adopted because we had experienced the problem that expansion joints got deformed due to earthquake or temperature change at the time of operating the accelerator, etc. In addition, design consideration was given not to cause a crack in the tunnel axis direction.