

The Present Status of the n_TOF Facility at CERN

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The idea of the n_TOF facility at CERN was proposed in 1998. Its main aim was to provide precise neutron cross-section data relevant to the R&D of accelerator driven systems, nuclear astrophysics, etc. It is composed of a spallation neutron source, a 190-m flight path, a variety of detectors, data acquisition systems, etc. A 20 GeV/c proton beam was employed together with a lead target for the spallation neutron source.

The n_TOF was commissioned in 2001. The background in the experimental areas was investigated and it was larger than the simulated result by about 50 times. After adding an iron shield with a thickness of 3 m and a shadow bar, the measurement of capture and fission cross sections started in 2002.

The work packages from nTOF1 to nTOF10 have been performed up to now. In these packages, capture and fission experiments were performed for 28 and 7 isotopes, respectively.

The present contribution reports on the short history, present status, and future plan of the n_TOF facility.