

Abstract Submitted
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Neutron lifetime measurement with pulsed beam at JPARC:

Overview KENJI MISHIMA, TAKASHI INO, KAORU TAKETANI, KEK, TAKAHITO YAMADA, RYO KATAYAMA, NAO HIGASHI, HARUMICHI YOKOYAMA, HIROCHIKA SUMINO, SATORU YAMASHITA, The University of Tokyo, RISA SAKAKIBARA, TOMOAKI SUGINO, MASAACKI KITAGUCHI, KATSUYA HIROTA, HIROHIKO M. SHIMIZU, Nagoya University, GENKI TANAKA, NAOYUKI SUMI, HIDETOSHI OTONO, TAMAKI YOSHIOKA, Kyushu University, RYUNOSUKE KITAHARA, YOSHIHISA IWASHITA, Kyoto University, HIDEYUKI OIDE, CERN, TATSUSHI SHIMA, Osaka University, YOSHICHIKA SEKI, RIKEN, NOP COLLABORATION — The neutron lifetime is an important parameter for a test of the Standard Model of elementary particles, as well for the production of light mass nuclei in big bang nucleosynthesis. There are two principally different approaches to measure the neutron lifetime: In-beam methods and storage of ultracold neutron. At present, there is a discrepancy of 8.4 sec (3.8 sigma) between the two methods. We are performing a new In-beam experiment with an intense pulsed neutron source at J-PARC, which has different systematic uncertainties from the previous experiments. We introduce the overview of the experiment and report present status.

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