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Neutron beam provided by the neutron nucleus reaction instrument at the J-PARC MLF[1] KOICHI KINO, MICHIHIRO FURUSAKA, FUJIO HIRAGA, TAKASHI KAMIYAMA, YOSHIAKI KIYANAGI, Hokkaido University, KAZUYOSHI FURUTAKA, SHINJI GOKO, HIDEO HARADA, ATSUSHI KIMURA, TADAHIRO KIN, FUMITO KITATANI, MITSUO KOIZUMI, SHOJI NAKAMURA, MASAYUKI OHTA, MASUMI OSHIMA, YOSUKE TOH, Japan Atomic Energy Agency, MASAYUKI IGASHIRA, TATSUYA KATABUCHI, MOTOHARU MIZUMOTO, Tokyo Institute of Technology — We constructed a neutron beam line at the J-PARC materials and life science facility. This is called the neutron nucleus reaction instrument (NNRI) and measurements of the neutron capture cross sections for minor actinides and long-lived fission products have just begun. Prior to them we measured properties, which are spatial and energy distributions, and pulse shape, of the neutron beam provided by the NNRI. In this talk, we introduce the concept and structure of the NNRI at first. Then we report the properties of the neutron beam, which are experimentally obtained, and discuss their validity comparing to the prediction by simulation.

[1]Present study is the result of "Study on nuclear data by using a high intensity pulsed neutron source for advanced nuclear system" entrusted to Hokkaido University by the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT).

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