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Study of the radiation damage on Ge detectors and background for CAGRAF NATSUMI ICHIGE, Graduate School of Science, Tohoku University, NORI AOI, YASSID AYYAD, EIJI IDEGUCHI, CHIHIRO IWAMOTO, Research Center for Nuclear Physics, Osaka University, TAKESHI KOIKE, Graduate School of Science, Tohoku University, HIROTAKA SUZUKI, TOMOKAZU SUZUKI, ATSUSHI TAMII, MANA TANAKA, TETSUYA YAMAMOTO, Research Center for Nuclear Physics, Osaka University, YASUTAKA YAMAMOTO, Graduate School of Science, Tohoku University, CAGRA COLLABORATION — CAGRA, jointly developed between the U.S. and Japan, is an array of 16 Clover-type Ge detectors with anti-Compton BGO shields. RCNP is one of the main hosts to CAGRA. A project called CAGRAF is started at RCNP where the high resolution reaction spectrometer Grand Raiden is considered to be coupled with CAGRA. A critical issue for this setup is a severity of radiation damages mainly caused by fast neutrons which would be produced in primary beams of a few-hundred-MeV proton. To investigate the degree of the neutron damages and background in the Ge energy spectrum, a test experiment was conducted at the Grand Raiden beam line at RCNP in May, 2014. Two sets of plastic and liquid scintillator counters are placed near a ^{12}C target (30 mg/cm^2) for measurements of neutron flux from the p + ^{12}C reaction with the beam energy of 392 MeV. The beam intensity is varied between 1 nA - 10 nA. One transistor reset-type Ge detector is placed at 10 cm or 50 cm away from the target center. The Ge energy spectra are taken with the CAGRA digital electronics. In this contribution, results of the test experiment will be presented.

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