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The search for the eta' mesic nuclei in the BGOegg experiment NATSUKI TOMIDA, Kyoto University, HAJIME SHIMIZU, NORIHITO MURAMATSU, TAKATSUGU ISHIKAWA, MANABU MIYABE, YUSUKE TSUCHIKAWA, RYUJI YAMAZAKI, YUJI MATSUMURA, KEN'ICHIRO SHIRAISHI, ELPH, Tohoku University, TAKASHI NAKANO, MASARU YOSOI, TOMOAKI HOTTA, YUUTO KASAMATSU, HIROTOMO HAMANO, NAM TRAN, RCNP, Osaka University, MASAYUKI NIYAMA, KEIGO MIZUTANI, TOSHIKAZU HASHIMOTO, Kyoto University, SHINICHI MASUMOTO, TAKUYA SHIBUKAWA, University of Tokyo, HIROAKI OHNISHI, RIKEN, WENCHEN CHANG, MING-LEE CHU, CHIA-YU HSIEH, Academia Sinica, JIA-YE CHEN, National Synchrotron Radiation Research Center, THE LEPS2/BGOEGG COLLABORATION¹ — It is predicted that the mass of eta' mesons decreases in nuclei due to the partial restoration of the chiral symmetry. If the eta' mass decreases, the eta' meson and the nuclear form a bound state. We search for the eta' bound state in the BGOegg experiment at the LEPS2 beam line at SPring-8. Using the GeV gamma ray, the eta' meson is produced in $^{12}\text{C}(\gamma, p)\text{eta}'$ ^{11}B reaction. The eta' production is identified by detecting eta meson from eta' decay using the BGOegg calorimeter. The energy of protons is measured by the RPC-TOF. From the missing mass spectrum, the eta' bound state is searched. This experiment started on May 2014. In this talk, the feasibility of this experiment and the performance of the detectors are described.

¹All members of the collaboration are listed on <http://www.lns.tohoku.ac.jp/~bgoegg/collaboration.html>

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