

Photoelectron Generation by Femtosecond UV Laser, A. ENDO, T. HORI, K. KOBAYASHI, F. SAKAI, M. WASHIO, Sumitomo Heavy Ind.; K. NAKAJIMA, A. OGATA, National Lab. For High Energy Physics (KEK); T. KOZAWA, T. UEDA, M. UESAKA, Univ. of Tokyo - We have been developing the photocathode system to realize high current and short pulse electron beam for applying to extensive works of Laser Wakefield Acceleration, and X-ray generation by means of Thomson Scattering. For this purpose, we are making a continuous study on the characteristics for some kinds of cathode materials such as LaB₆, Mg and Cu using a 100 femtosecond, 20 μJ at 250 nm which was sliced and converted from 10 Hz, terawatt Ti:Sa laser. Though the studies have been undergoing using a 40 kV DC gun system, the extraction experiments of electrons are going to be started using an RF photocathode system for obtaining high current and short pulse electron beam. We are going to report on the behaviour of the extracted electron beam using above systems.