Plasma Wakefield Acceleration Experiments Driven by Multibunch using UTNL-Twin Linac System,
T. KOZAWA, T. UEDA, T. KOBAYASHI, H. SHIBATA, M. UESAKA, K. MIYA, Univ. Tokyo; M. ARINAGA, K. NAKAJIMA, H. NAKANISHI, T. KAWAKUBO, A. OGATA, KEK; N. YUGAMI, Y. NISHIDA, Utsunomiya Univ.; Y. YOSHIDA, Osaka Univ. - Plasma wakefield acceleration is one of the methods which are proposed in order to obtain an acceleration gradient high enough for the next generation of linear colliders. Experiments of plasma wakefield acceleration driven by multibunches were performed using twin linac system at the University of Tokyo. The wakefield accelerator consisted of two linacs, achromatic lines, plasma chamber and energy analyzer. A 28 MeV linac excited wakefield in Ar plasma and a 18 MeV linac witnessed the wakefield. The dependence of acceleration characteristics on the plasma density was surveyed by observing changes in sizes and energy of 18 MeV test bunches.