

Expected Luminosity at MUSES, T. KATAYAMA, INS, K. YOSHIDA, RIKEN - The luminosity of head-on collisions between electrons and unstable nuclei has been estimated for the accelerator complex of MUSES. The main task for obtaining the luminosity is to deduce the available intensity of unstable nuclei at MUSES since the other parameters which determine the luminosity are rather easily obtained. In the MUSES, unstable nuclei are produced through the fragmentation reaction of stable nuclei and are separated by the fragment separator. The separated nuclei are accumulated in the Accumulator and Cooler Ring (ACR) of MUSES and injected into the Booster Synchrotron Ring (BSR) of MUSES. The accelerated beam is then injected into the one ring of the Double Storage Ring (DSR) to collide with electrons stored in another ring. Therefore the beam intensity of unstable nuclei depends on the production rate, the cooling time, and the intrinsic life time of the unstable nuclei. The calculated result shows that the luminosity of $>10^{27}$ is available for nuclei whose life time is larger than 1 min.