

Production yields of the radionuclides induced from various targets in concrete shield at the 500-MeV neutron irradiation facility of KENS

H. Matsumura<sup>1</sup>, N. Nakao<sup>1</sup>, K. Masumoto<sup>1</sup>, K. Oishi<sup>2</sup>, M. Kawai<sup>1</sup>, T. Aze<sup>3</sup>, A. Toyoda<sup>1</sup>, M. Numajiri<sup>1</sup>, K. Takahashi<sup>1</sup>, M. Fujimura<sup>4</sup>, Q. Wang<sup>5</sup>, K. Bessho<sup>1</sup>, T. Sanami<sup>1</sup>

<sup>1</sup>KEK, <sup>2</sup>Shimizu Co., <sup>3</sup>The Univ. of Tokyo, <sup>4</sup>Nihon Univ. <sup>5</sup>IHEP

We performed a shielding experiment of high-energy neutrons, which were generated from a tungsten target bombarded with 500-MeV protons at KENS, and penetrated through the concrete shield in the zero-degree direction. Using an activation method, we observed many radioactive products induced by thermal to several 100 MeV neutrons and obtained their production yields from various target elements at the depth of 0 to 4 m from the surface of the concrete shield.