p-Be FAST NEUTRON ACTIVATION EXPERIMENT OF CONCRETE

Akihisa Hara
Technical Research Institute of Hazama-Gumi, Ltd
4-17-23, Honmachi-Nishi, Yono, Saitama, Japan

and

Takashi Nakamura
CYCRIC of Tohoku University

and

Yoshitomo Uwamino
I.N.S of University of Tokyo

ABSTRACT

Concrete is widely used as a shielding material of a radiation operating facility, But induced radioactivuty in concrete irradiated by neutrons becomes a new radiation source, which increase the radiation exposure of maintenance workers and the radioactive waste. These are the problems at facility operation and dismantling. The development and popularization of large scale accelerators makes these problems more serious while they produce many high energy neutrons.

We measured the induced radioactivuty of concrete irradiated by neutrons, which were produced by 20, 30 and 40-MeV proton bombardment of a beryllium target, The neutron spectra were also measured, and the experiment was performed at the SF cyclotron of the Institute for Nuclear Study, University of tokyo.