

Radiation Damage of Beryllium Reflector for Research Reactor Application

Suk Hoon Kang¹

¹*Korea Atomic Energy Research Institute, Korea*

E-mail: shkang77@kaeri.re.kr

Beryllium is considered as a reflector material for the research reactor. The neutron fluence results in significant damage of material structure and corresponding degradation of physical–mechanical properties. In this study, the proton radiation damage of the beryllium grade manufactured by hot extrusion was investigated to emulate the effect of neutron radiation. The samples were irradiated by protons at room temperature; the acceleration voltage, and the proton amounts were 120keV, and 2.0×10^{18} ions/cm², respectively. The neutron irradiation experiment also have been conducted in HANARO, their results will be discussed in terms of swelling, and microstructure evolution.