

Thermalhydraulic design of non-instrumented capsule for irradiation experiments in HANARO

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Abstract

It has been possible that various kinds of irradiation experiments are proceeded through the construction of HANARO. The non-instrumented capsule was designed for life time evaluation of nuclear material. The thermalhydraulic design of non-instrumented capsule was divided into two parts. Firstly, pressure drop experiments was performed to satisfy allowable limits on pressure drop and coolant flow rate for experimental hole IR-1 inside HANARO core. The tube diameter and lower part design of non-instrumented capsule was decided from the experiment. Secondly, thermal design to control the maximum specimen temperature was conducted by GENGTC one dimensional program.