Prediction of Low-Pressure Critical Heat Flux using SPACE-RR Code

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Introduction

• SPACE-RR code is developed from SPACE for RR safety analysis.
• Two CHF correlations are newly added which are Kaminaga et al. (1998) and HANARO (1992) correlations developed for plate-type and finned rod geometries, respectively.
• This study checked prediction capability of embedded CHF correlations by comparing calculation results with those from experiments.

Test by Mirshak et al. (1959)/WNRE (1989)

Test section cross-section (Mirshak et al. (1959))

Test section cross-section (WNRE (1989))

Experiment-Code Comparison Results

<K/M statistics>
Kaminaga et al. (1998):
- Mean=0.91, s=0.07
AECL LUT (2006):
- Mean=1.00, s=0.11

HANARO (1992):
- Mean=0.93, s=0.18