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**Comparison of an Integral Response Scaling Method with Ishii's Scaling Method  
and its Validation Using RELAP5/MOD3.2**

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**Abstract**

*An integral response scaling method for a reduced-height test facility is suggested and the scaling laws derived from it are compared with Ishii's scaling. In the present scaling method it turns out that flow velocities in the vertical channel and through the break area or injection area should be preserved.*

*RELAP5/MOD3.2 code calculations of pot-boiling, blowdown, heat transfer in Steam Generator(SG) and off-take are conducted for the validation of the present scaling method. Four scaled-down models are designed based on the present method and Ishii's scaling method given length and area scales of 1/5 and 1/100, respectively. RELAP5/MOD3.2 calculations show that the scaled-down model based on the present scaling method well maintains the similarity of the nondimensional mixture level in pot-boiling, the nondimensional pressure in blowdown and the heat transfer coefficient in SG.*