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EXPERIMENTAL INVESTIGATION OF C6F15N FLASHING VAPORIZATION CHARACTERISTIC
IN VACUUM**Abstract**

C6F15N is a liquid working fluid generally used in satellites' thermal management. In the case of the liquid working fluid leaking or excreting in vacuum, some complex phenomenon such as flashing vaporization would appear. Experiment was achieved by where the pressure rapidly decreasing in the present study. Experimental observation showed that the liquid C6F15N tempestuously flashed vaporization when the pressure rapidly decreased below the saturation vapor pressure. The propagation velocity of the flashing vaporization wave was 0.23m/s within a pipe of 9 mm in diameter. By comparison with the prediction using simplified Simões-Moreira Shepherd model, the experimental measurement obtained a little greater velocity.