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HEAT TRANSFER CHARACTERISTIC OF CONFINED JET ARRAY IMPINGEMENT COOLING FOR HIGH HEAT FLUX APPLICATIONS OF SPACECRAFT

Abstract

Liquid Jet impingement cooling is deemed as one of the most promising high heat flux cooling technologies for high power payload of spacecraft with heat flux higher than 100W/cm2. Compared with single phase cooling, two-phase cooling has advantages of more uniform heating surface temperature, lower pressure drop and less mass flow rate. In this paper, a closed-loop experimental setup is built to study confined jet array impingement boiling of 43