

JET IMPINGEMENT COOLING OF A HEATED PEDESTAL

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Direct jet impingement cooling remains a popular method of dissipating heat from low and mid power electronic devices. While numerous studies quantify the effects of for jet impingement on heat dissipation from heated flat plates, very few papers have studied the effects of surface geometry on the thermal performance of impinging jets. Unusual surface geometry can have an effect on the jet dynamics through pressure feedback from the impingement point. How this affects the overall heat transfer performance remains to be seen. This experimental project examines the jet impingement cooling of a heated pedestal which represents an electronic chip protruding from a surface, and compares the results to the flat plate results to quantify the geometry effects. No similar experimental tests of this particular design currently exist.