

Abstract Submitted
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Temperature profiles near a pinned nucleating bubble SCOTT PARKER, CHANG-KI MIN, SUNG CHUL BAE, DAVID CAHILL, STEVE GRANICK, University of Illinois — We have measured the temperature distribution on solid surfaces in contact with a nucleating vapor bubble by thermal surface plasmon imaging. Vapor bubbles are created by focused laser heating of an underlying metal substrate. Bubbles are pinned in place by suitable surface functionalization and their shape is characterized by interferometry. Varying the wettability of the surface to control the shape and surface lifetimes of bubbles, we have correlated contact angle, lift-off diameter, and local temperature.

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