Abstract Submitted
for the DFD16 Meeting of
The American Physical Society

Visualization of airflow growing soap bubbles HAMOOD AL RAHBI, MATTHEW BOCK, SANGJIN RYU, University of Nebraska-Lincoln — Visualizing airflow inside growing soap bubbles can answer questions regarding the fluid dynamics of soap bubble blowing, which is a model system for flows with a gas-liquid-gas interface. Also, understanding the soap bubble blowing process is practical because it can contribute to controlling industrial processes similar to soap bubble blowing. In this study, we visualized airflow which grows soap bubbles using the smoke wire technique to understand how airflow blows soap bubbles. The soap bubble blower setup was built to mimic the human blowing process of soap bubbles, which consists of a blower, a nozzle and a bubble ring. The smoke wire was placed between the nozzle and the bubble ring, and smoke-visualized airflow was captured using a high speed camera. Our visualization shows how air jet flows into the growing soap bubble on the ring and how the airflow interacts with the soap film of growing bubble.

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Date submitted: 29 Jul 2016 Electronic form version 1.4