

Abstract Submitted  
for the DFD17 Meeting of  
The American Physical Society

**Bubble bursting at an interface** VARUN KULKARNI, KUMAYL SAJJAD, SUSHANT ANAND, University of Illinois, Chicago, IL, KAMEL FEZZAA, Argonne National Laboratory, Lemont, IL — Bubble bursting is crucial to understanding the life span of bubbles at an interface and more importantly the nature of interaction between the bulk liquid and the outside environment from the point of view of chemical and biological material transport. The dynamics of the bubble as it rises from inside the liquid bulk to its disappearance on the interface after bursting is an intriguing process, many aspects of which are still being explored. In our study, we make detailed high speed imaging measurements to examine carefully the hole initiation and growth in bursting bubbles that unearth some interesting features of the process. Previous analyses available in literature are revisited based on our novel experimental visualizations. Using a combination of experiments and theory we investigate the role of various forces during the rupturing process. This work aims to further our current knowledge of bubble dynamics at an interface with an aim of predicting better the bubble evolution from its growth to its eventual integration with the liquid bulk.

Varun Kulkarni  
University of Illinois, Chicago, IL

Date submitted: 01 Aug 2017

Electronic form version 1.4