Abstract Submitted
for the DFD20 Meeting of
The American Physical Society

A narrowband variational level set methodology for predicting cavitating surface nucleation sites[1] KARIM ALAME, KRISHNAN MAHESH, University of Minnesota — A robust narrowband implementation of the Gibbs free energy minimization algorithm using a variational level set methodology is presented. The method relies on the distance regularized level set equations (DRLSE) which avoids the standard reinitialization. The application of the method is to obtain a liquid-gas interface over a wedge and arbitrary rough surfaces to predict nucleation sites for different external pressure conditions. The ability of the method to predict accurately, quickly and efficiently is demonstrated.

[1]Supported by ONR

Karim Alame
University of Minnesota

Date submitted: 10 Aug 2020 Electronic form version 1.4