

**Supplementary materials for
Growth laws and scaling states of coarsening two-dimensional foams:
transition from dry to wet limits**

Ismael Fortuna,* Gilberto L. Thomas, and Rita M.C. de Almeida†
*Instituto de Física, Universidade Federal do Rio Grande do Sul
C.P. 15051, 91501-970 Porto Alegre, RS Brazil*

François Graner‡
*“Polarité, Division et Morphogenèse”, Laboratoire de Génétique et Biologie du Développement,
Institut Curie, 26 rue d’Ulm, F - 75248 Paris Cedex 05, France*
(Dated: February 29, 2012)

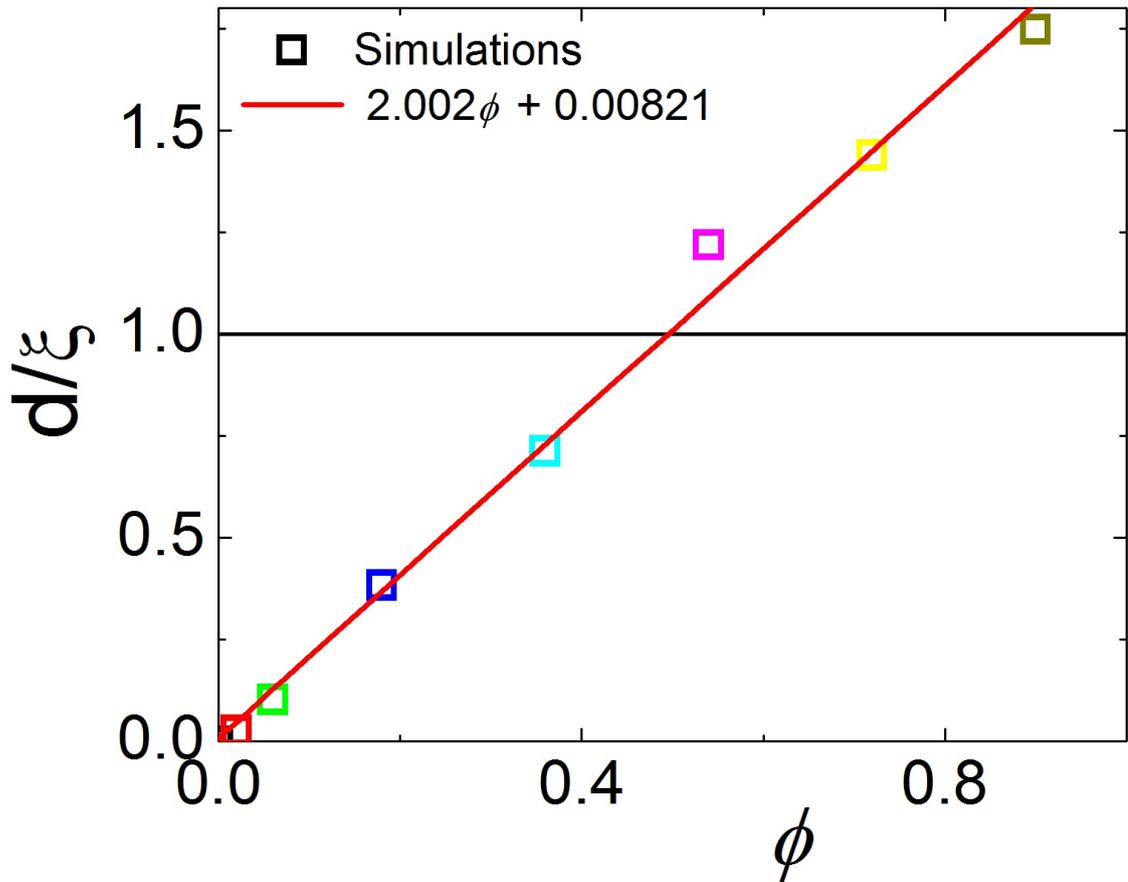


FIG. 1: Ratio of average distance between air bubbles and screening length ξ for different liquid fractions during scaling regime. Observe that, for $\phi \geq 0.54$, $d > \xi$. The red line is a linear fit.

* ismaelfortuna@gmail.com

† rita@if.ufrgs.br; Instituto Nacional de Ciência e Tecnologia: Sistemas Complexos

‡ Present address: Matière et Systèmes Complexes, Université Paris Diderot, CNRS UMR 7057, 10 rue Alice Domon et Léonie Duquet, 75205 Paris Cedex 13, France

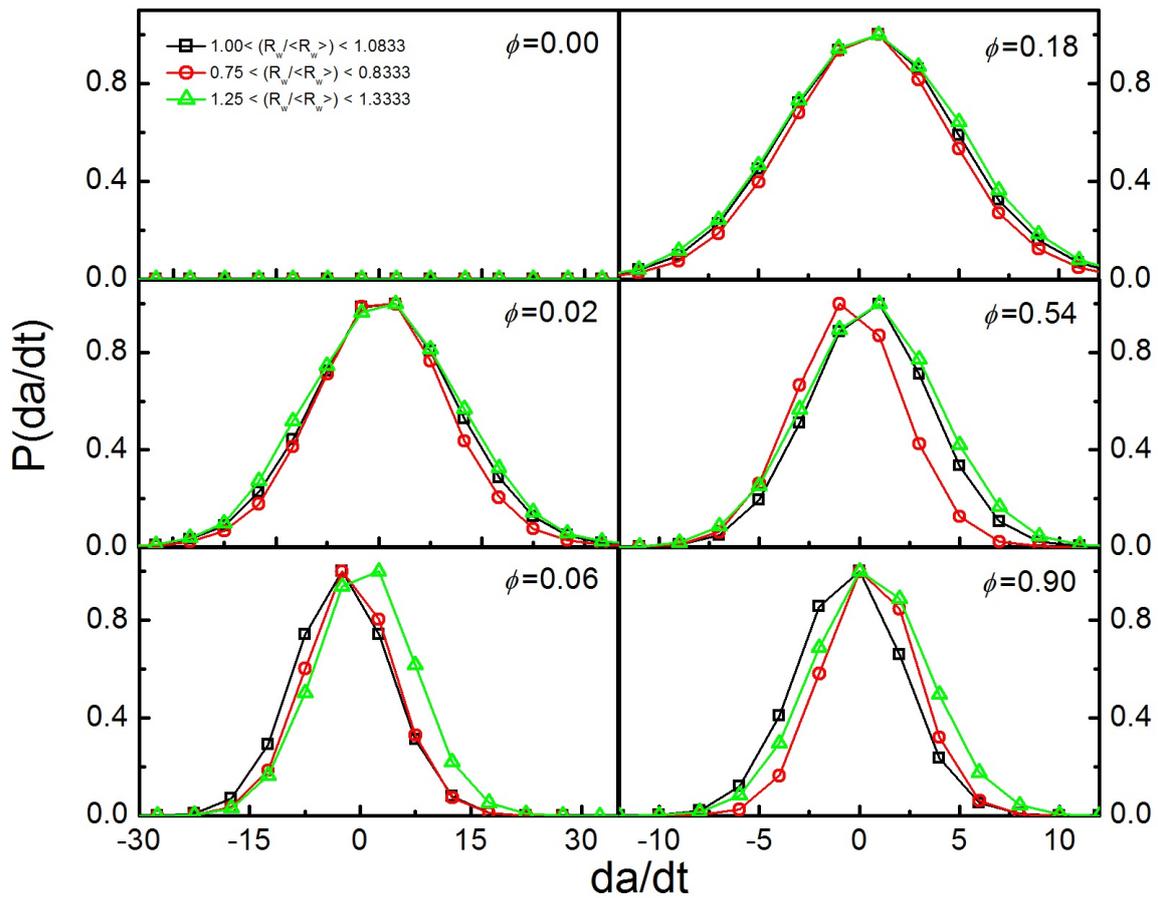


FIG. 2: Normalized bubble growth probability distributions, for the liquid fractions ϕ presented in the paper (0.0, 0.02, 0.06, 0.18, 0.54, and 0.9), in the three distinct ranges of $R_w/\langle R_w \rangle$ shown in the upper left corner. Notice that, for $\phi = 0.0$, $\langle R_w \rangle = 0$.

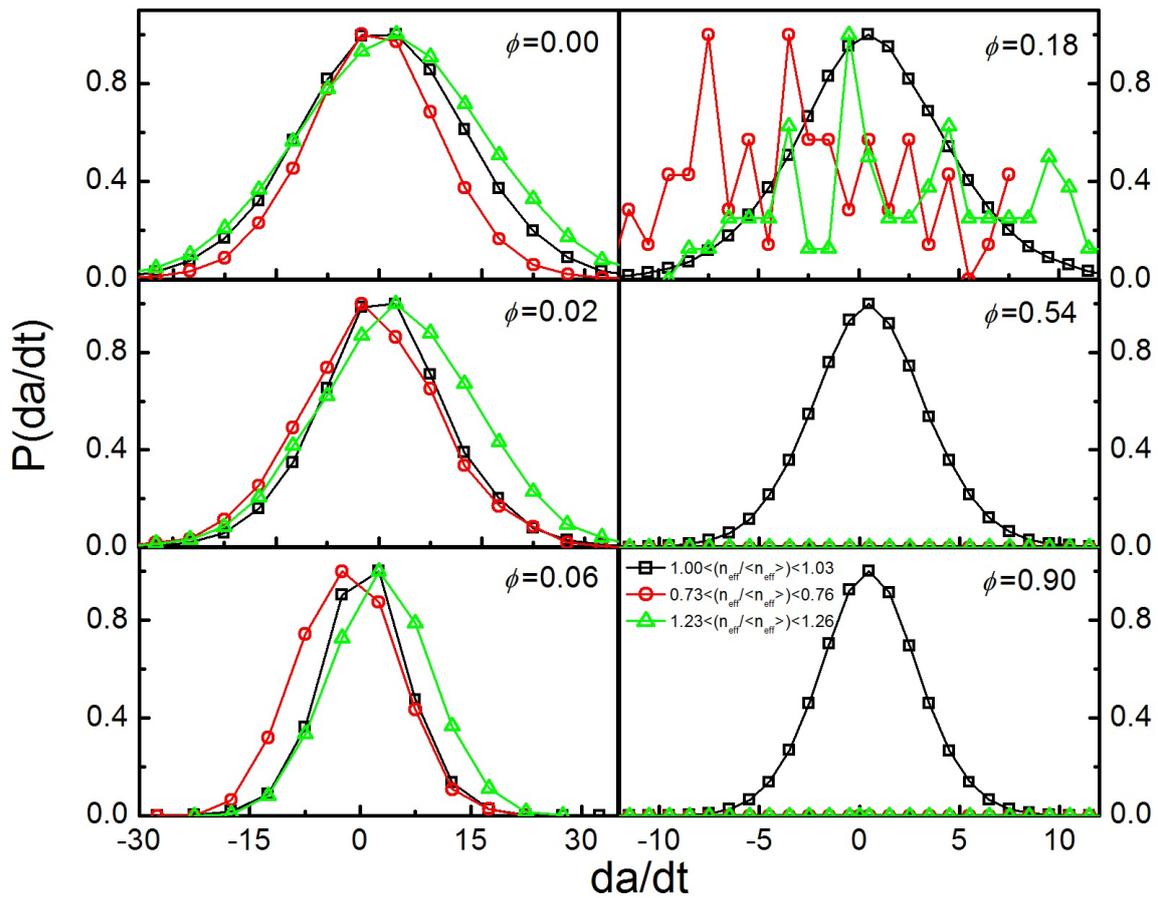


FIG. 3: Normalized bubble growth probability distributions, for the liquid fractions ϕ presented in the paper (0.0, 0.02, 0.06, 0.18, 0.54, and 0.9), in the ranges of $n_{eff}/\langle n_{eff} \rangle$ presented in the lower right corner. Notice that, as ϕ increases, the distributions narrow around n_{eff} , so no bubbles are found far from this n_{eff} value. For $\phi = 0.54$ and $\phi = 0.9$ there are only bubbles with $n_{eff} \simeq \langle n_{eff} \rangle$.

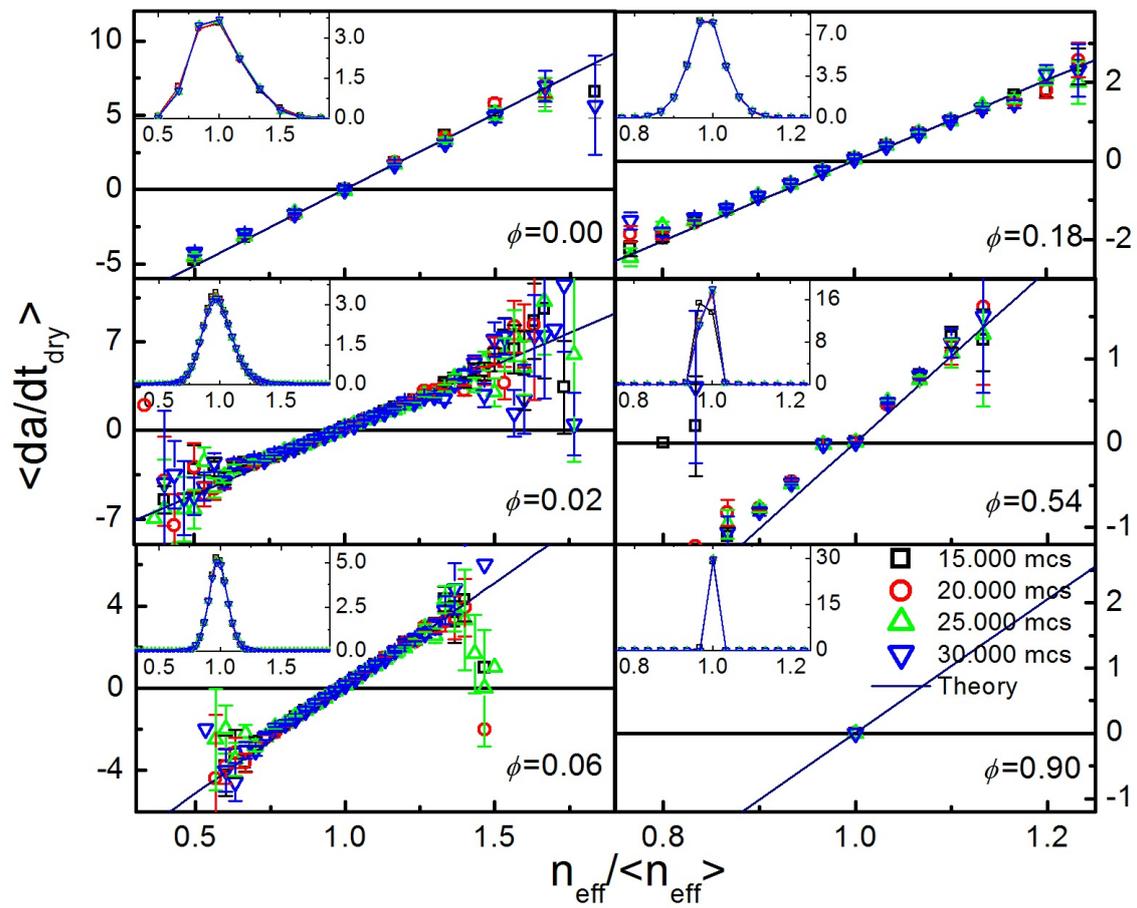


FIG. 4: Area growth rate of air bubbles through the dry interfaces as a function of $n_{\text{eff}}/\langle n_{\text{eff}} \rangle$ for different liquid fractions and at different instants of the scaling regime. The insets present the probability density of $n_{\text{eff}}/\langle n_{\text{eff}} \rangle$ at the same instants.

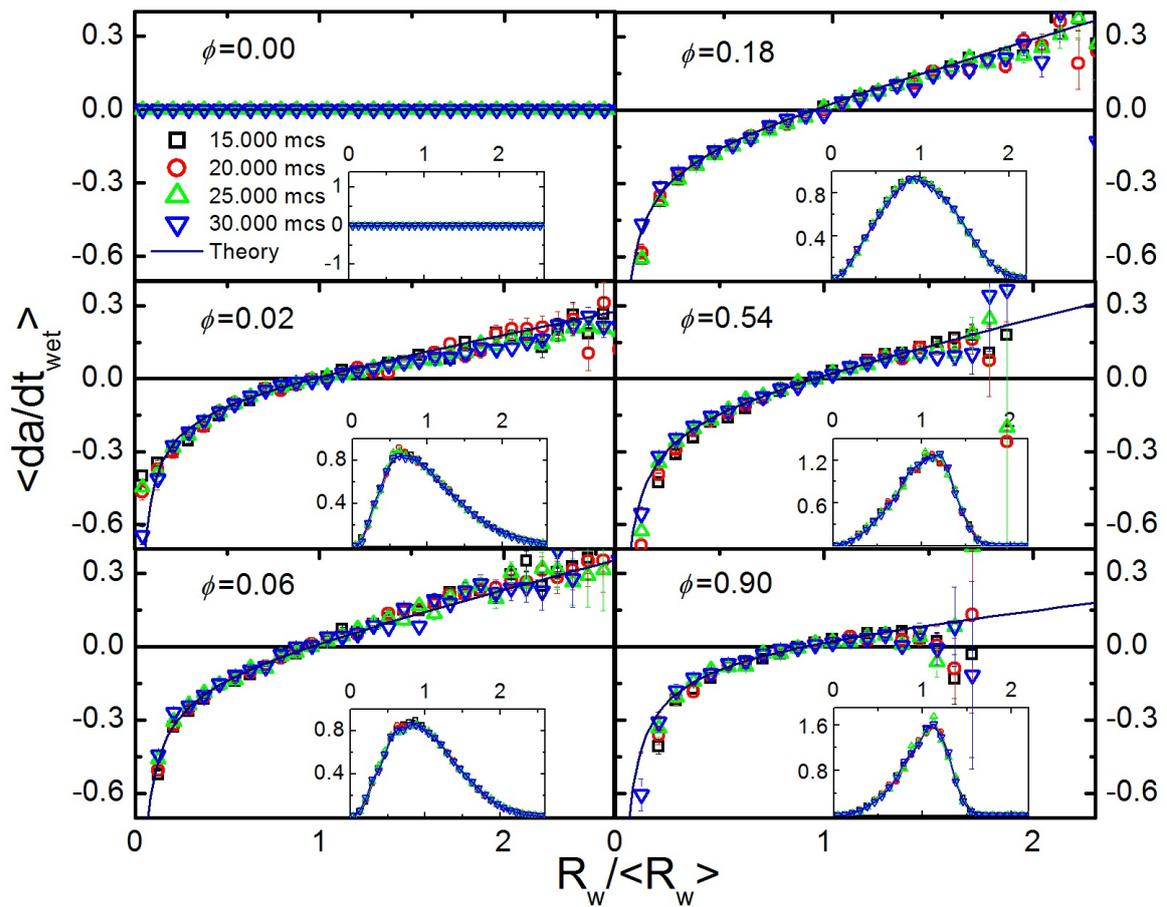


FIG. 5: Area growth rate of air bubbles through the wet interfaces as a function of $R_w / \langle R_w \rangle$ for different liquid fractions and at different instants of the scaling regime. The insets present the probability density of $R_w / \langle R_w \rangle$ at the same instants.