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Study of 2D emulsions produced by Breath Figures of two immiscible substances[1] JOSÉ GUADARRAMA-CETINA, Univ Nacl Autonoma de Mexico, WENCESLAO GONZÁLEZ-VIÑAS, University of Navarra — In this work we analyze experimental results [1,2] on two condensing vapors (22 °C) of ultrapure water (W) and Hexamethyldisiloxane (HMDSO) on a cold (5 °C) repellent surface. From the statistics of population of the two kind of droplet patterns, we characterize statistically the emulsion formation through the parameters of occupancy, area fraction and diameter of droplet average per unit area and through the PDF of droplets diameter for each stage of the BF and its emulsion product. We compare those parameters and the PDFs for different straming rates of W/HMDSO and we give the necessary conditions to drive the system to stabilisation stage and cluster formation.

[1] J. Guadarrama *et al.*, Phys. Rev. E **87**, 054401 (2013).
[2] J. Guadarrama *et al.*. In preparation.

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