

Abstract Submitted  
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**Isolated drops from capillary jets by means of Gaussian wave packets**<sup>1</sup> FRANCISCO JAVIER GARCIA, Dept. de Fisica Aplicada I, Universidad de Sevilla, HELIODORO GONZALEZ, Dept. de Fisica Aplicada III, Universidad de Sevilla, ALFONSO ARTURO CASTREJON-PITA, Dept. of Engineering Science, University of Oxford, JOSE RAFAEL CASTREJON-PITA, School of Engineering and Materials Science, Queen Mary University of London, FRANCISCO JOSE GOMEZ-AGUILAR, Dept. de Fisica Aplicada I, Universidad de Sevilla — The possibility of obtaining isolated drops from a continuous liquid jet through localized velocity perturbations is explored analytically, numerically and experimentally. We show that Gaussian wave packets are appropriate for this goal. A temporal linear analysis predicts the early evolution of these wave packets and provides an estimate of the breakup length of the jet. Non-linear numerical simulations allow us both to corroborate these results and to obtain the shape of the surface of the jet prior to breakup. Finally, we show experimental evidence that stimulating with a Gaussian wave packet can lead to the formation of an isolated drop without disturbing the rest of the jet.

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