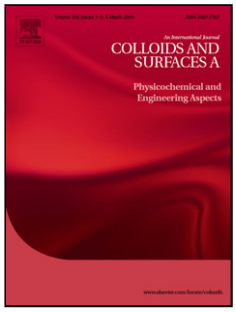

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Droplets generator: formation and control of main and satellite droplets

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Highlights:

A new and simple method for producing steady disturbance wave is mentioned in this research.

The droplets formation process experienced different breakup mode at different nozzle diameters.

The wavelength of surface wave decreased with the rose of the disturbance frequency.

With the increase of the disturbance frequency, the size of droplets diameter decreased.

Abstract: The continuous-ink-jet printing technology is of great importance in many fields of the industrial and scientific applications due to its low-cost, simplicity, and flexible to a wide variety of material, which entail important technological advantages over existing technology. The perturbation imposed on the surface of the jet-flow is one of the primary parameters to control droplets formation. Therefore, a simple method for producing steady disturbance is presented in this article for further development the technology of continuous-ink-jet printing. Using high-speed photography technology along with image processing, the formation of droplets are investigated at different nozzle diameter and disturbance frequency. The results