Dripping Modes of Newtonian Liquids: The Effect of Nozzle Inclination

Authors : Amaraja Taur, Pankaj Doshi, Hak Koon Yeoh

Abstract : The dripping modes for a Newtonian liquid of viscosity μ emanating from an inclined nozzle at flow rate Q is investigated experimentally. As the liquid flow rate Q increases, starting with period-1 with satellite drops, the system transitions to period-1 dripping without satellite, then to limit cycle before showing chaotic responses. Phase diagrams shows the changes in the transitions between the different dripping modes for different nozzle inclination angle θ is constructed in the dimensionless (Q, μ) space.

Keywords : dripping, inclined nozzle, phase diagram, satellite
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