

Abstract Submitted  
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**A new classification for liquid jets dynamics** BOWEN LING, ILENIA BATTIATO, Clemson University — The physics of liquid jets has been attracting scientists' interest for many decades. Previous works have focused on various aspects of jets dynamics including instability, self-similarity, etc. We propose a new criterion to classify liquid jets dynamics based on a non-dimensionalization of Navier-Stokes equations, which generalises well-established scalings. We employ such framework to describe specific dynamics, e.g. breakup characteristics, drop formation and dripping-jetting transition, and identify the driving physical mechanisms of different regimes. We compare the proposed classification with experimental results.

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