Abstract Submitted
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Actuation of interfacial waves in oil-water flows KYEONG PARK, WEHELIYE WEHELIYE, MAXIME CHINAUD, PANAGIOTA ANGELI, Department of Chemical Engineering, University College London, Torrington Place, London, WC1E 7JE, JAMES PERCIVAL COLLABORATION[1], OMAR. K. MATAR COLLABORATION[2] — Droplet detachment from interfacial waves in two-phase flows has pulled in noteworthy exploration interest. In order to examine this phenomenon experimentally and empower quantitative estimation, it is important to spatially confine the drop formation. In the present study, a cylinder, located close to the inlet of the test section and perpendicular to the direction of the flow, is placed in a two-phase stratified oil-water pipe flow. The introduction of this cylinder actuated interfacial waves and move from stratified to dispersed flow pattern. High speed visualisation and Particle Image Velocimetry (PIV) measurement are utilized to investigate the flow pattern maps of the two-phase flow and the velocity fields in the wake of the cylinder, respectively. These results will be compared with previous experimental studies.

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