

# Complex flows inside drops under acoustical and mechanical vibrations

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We investigate experimentally the flow inside a sessile droplet subjected to acoustic or mechanical forcing. The drop is in partial wetting on its substrate. The surface acoustic wave (SAW) of a few tens of MHz induces a streaming flow inside the drop, and the acoustic radiation pressure acting at the liquid/air interface generates oscillations that can unpin the drop contact-line. The mechanical vibrations prescribe an oscillatory gravity field that also causes the unpinning of the contact-line. We give details of the inner flow and discuss the most efficient way to move the drop by combining acoustic and mechanical actions.