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Droplets motion by Dissipative particle dynamics on inclined flat plate with oil film covered CHUANJIN LAN, YANBAO MA, University of California, Merced — Understanding the incipient motion of a droplet adhered to a surface has wide applications, from self-cleaning of superhydrophobic surfaces to electromagnetic drop actuation in microfluidic systems. In this paper the dissipative particle dynamics (DPD) is introduced to study the droplet motion at the meso-scale along the inclined flat plate covered with oil film at different tilt angles. The flow motion can be totally different with and without the existence of the oil film. The effect from tilt angle and oil film thickness is studied on the motion of the droplet.

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