

Abstract Submitted
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Is drop impact the same for both moving and inclined surfaces?

SALMAN BUKSH, York University, MARCO MARENCO, Brighton University, ALIDAD AMIRFAZLI, York University, - TEAM — Drop impact is an important phenomenon in a wide variety of applications. Researchers have largely examined drop impact onto a moving surface, and an inclined surface separately. Given that in both systems the impact phenomenon is influenced by tangential and normal velocity components, the question remains, if these two systems are essentially equivalent or gravity and boundary layer effects are such that the outcomes will be different. Experiments have been performed by varying liquid surface tension, viscosity and both normal and tangential velocities (0.3 to 2.9 m/s). The desired velocity components were achieved by changing the height where drop is released, the surface inclination angle for inclined system, and the horizontal velocity for the moving surface. To compare the systems, spreading was analyzed by measuring the width and length of the lamella at various time intervals; for splashing, top view images were compared to see the extent of splashing at initial stage. The data suggests that, for the given velocity, neither the boundary layer differences between the two systems nor the gravity play a role on spreading and splashing of the drop, as such one system can replace the other for future studies.

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