Abstract Submitted
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Aerosol saliva droplet dynamics on surfaces around omni-phobic coatings[1] VICTOR CASTANO, Universidad Nacional Autnoma de Mxico , TANYA PURWAR, LUCIANO CASTILLO, AMEE PATEL, TAYLOR OSBORN, Purdue University, MARIA CASTANO , Escuela John F Kennedy — In the event of the recent coronavirus outbreak, NIH studied viruses being deposited from an infected person onto everyday surfaces in a household or hospital setting, such as through coughing or touching objects. Such studies are vital to understanding the nature of virus spread and can help in determining methods and materials that can lead to safety upgrades in infection prone scenarios. Studies have shown that viruses become inactivated and proteins lose activity upon exposure to air-water interfaces. However, when the viruses are in a three-part system consisting an aqueous medium, a surface and air referred to as a triple-phase-boundary system, stronger inactivation is expected. We are experimenting with 10 different highly touched surfaces to study the effect of a hydrophobic coating on the saliva droplet dynamics on coated surfaces, determining its contribution to the virus spread. The experiment includes using electrostatic spraying technology for coating and observing the effect of different surface morphologies due to the charged spraying on the droplet dynamics. We also test a nano-particle based disinfectant (Nanoxen) and its time effective anti-viral activity on these surfaces.

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