

Fabrication of Biological Superhydrophobic Surfaces

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Primary CNF Tools Used: ABM aligner, photolithography room

Abstract and Summary of Research:

The CNF photolithography technique has been used to fabricate a microstructure to study the rainfall on biological superhydrophobic surfaces. In this work, we explored raindrop impact at high speeds, which exhibits unexpected drop dynamics: numerous shock-like waves are generated on a spreading drop in the presence of microscopic textures on biological surfaces. Then, the spreading drop with shock-like waves is fragmented soon after it approaches a maximal spreading extent, thereby reducing the residence/contact time more than twofold.

One paper has been prepared and submitted to the PNAS journal, titled as "Shock-like waves and drop fragmentation of a raindrop impacting biological surfaces."

