

Fabrication of liquid infused slippery surface using PDMS

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Liquid infused slippery surface, characterized by low contact angle hysteresis, is a nature-inspired non-wetting material with various applications for its self-cleaning and anti-fouling property. In order to fabricate liquid infused slippery surface, liquid lubricant that has strong capillarity with the substrate must be selected. In this work, liquid infused slippery surface is easily fabricated using PDMS (polydimethylsiloxane) as a substrate and silicone oil as a lubricant. Different microstructures are fabricated on PDMS surface using photolithography to enhance the durability and robustness of the slippery surface. Contact angle hystereses of liquid infused slippery surfaces with different micro- nano- structures are measured using various liquids.