Spectral tuning of liquid microdroplets standing on a superhydrophobic surface using electrowetting

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Using electrowetting, we demonstrate reversible spectral tuning of the whispering gallery modes of glycerol/water microdroplets standing on a superhydrophobic surface by up to 4.7 nm at 400 V. Our results can inspire novel, electrically tunable optical switches and filters based on microdroplets on a superhydrophobic surface. The sensitivity of the observed spectral drift to the contact angle can also be used to measure the contact angles of microdroplets on a superhydrophobic surface.