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Rapid Fabrication of Close-Typed Electrowetting on Dielectric Devices

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Abstract. Electrowetting on Dielectric (EWOD) devices have becomes a common device for manipulating liquid droplets in chemical, electrochemical, disease diagnosis and biomaterial detection processes. EWOD devices are prefect platform for Lab-on-a-Chip devices due to their simplicity with no moving parts and high manoeuvrability precision. In this paper, the rapid fabrication procedure of close-type EWOD devices is proposed. The EWOD electrodes was designed to manipulate droplets as small as 8 microlitre. The experimental test reveals that the droplet velocity increases with the magnitude of applied voltage. The further experiment also confirms the capability of the fabricated EWOD on droplet dispersion, which is common requirement for Lab-on-a-chip applications

Keywords: Electro-Wetting on Dielectric, Droplet Manipulation, Lab-on-a-Chips