

Characteristic Analysis of Electrowetting Display on Super Hydrophobic Surface

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ABSTRACT

Probe into an each generation new technology applied to the display with electrowetting, find in the experiment that drips a drop of liquid while voltage that ITO glass is fooled among ITO and liquid interface to change, the surface tension will be with change and changing contact angle too, and this kind of operation is reversible, this is the so-called ' (Electrowetting, EW). If the ITO glass surface exerting the voltage spreads the exceeding and dredging the insulating membrane of super hydrophobic, can improve operating by reliability effectively, prevent from too phenomenon electrode not caused not electrolytic destroy with solving liquid from. This phenomenon calls ' the (Electrowetting-On-Dielectric, EWOD). Studying will have oil blue that will be dripped in the container of a little shape afterwards, the top has paved one more layer of water, once exert the voltage between ITO electrode and water, it is exposed to tension and will change the oil blue will be crowded on one side, this movement is that Electrowetting Display the principle. So the Electrowetting Display the principle already for the liquid, Wetting phenomenon produced because of static electric field function , this can control Wetting performance by changing surface chemical or surface micro-structure while water insulating . This text will be by way of changing surface micro-structure (roughness surface), research and discussion. Expect via roughness surface to take characteristic analysis and discussion believe that there is suitable aid in the (electrowetting display) design respect.

Keywords : Wettability ; Super Hydrophobic ; Roughness surface ; electrowetting display

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