

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Electrowetting for Digital Microfluidics TOM HUNT, KRISTI ADAMSON, Harvard Physics, DAVID ISSADORE, ROBERT WESTERVELT, Harvard Division of Engineering and Applied Science — Droplet based chemistry promises to greatly impact biomedical research, providing new avenues for high throughput, low volume assays such as drug screening. Electrowetting on Dielectric (EWOD) is an excellent technique for manipulating microscopic drops of liquid. EWOD uses buried electrodes to locally change the surface energy between a droplet and a substrate. We present microfabricated devices for moving droplets with EWOD. One example of such a device consists of a series of 16 interdigitated electrodes, decreasing in size from 1mm to 20 microns. Each electrode is addressable by an independent, computer controlled, high voltage supply. This work made possible by a gift from Phillip Morris and the NSEC NSF grant PHY-0117795.

Tom Hunt
Harvard Physics

Date submitted: 10 Jan 2006

Electronic form version 1.4