

Abstract Submitted
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A Hybrid Inkjet Printer Utilizing Electrohydrodynamic Jetting and Piezoelectric Actuation VU DAT NGUYEN, DOYOUNG BYUN, Konkuk University — This research demonstrates a hybrid electrohydrodynamic (EHD) inkjet printing technique that offers better uniformity and stable operation in drop-on-demand (DOD) patterns compared to the conventional methods. This hybrid technique takes advantage of both electrohydrodynamic and piezoelectric methods where a piezoelectric actuator is used to supply a fixed volume of ink to the nozzle's exit for every jetting period, and the electrohydrodynamic technique is used to form ink droplets. Experimental results show that the pattern uniformity improves significantly when ink was supplied to the nozzle exit at a controlled rate using piezoelectric actuation. This hybrid technique can be applied to small scale nozzle to obtain high resolution printing.

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