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Parallel conductive-AFM lithography of $LaAlO_3/SrTiO_3$ using 1D multiple-tip array[1] SHUO LI, MENGCHEN HUANG, FENG BI, University of Pittsburgh, SANGWOO RYU, CHANG-BEOM EOM, University of Wisconsin-Madison, JEREMY LEVY, University of Pittsburgh — Nanoscale devices at the $LaAlO_3/SrTiO_3$ interface can be created by metastable charging of the top $LaAlO_3$ surface using a voltage-biased conductive-AFM tip.[2] In order to create scalable nanoelectronic circuits, it will be important to develop a process to allow multiple tips to write nanostructures in parallel. Here we demonstrate a parallel writing scheme using a 1D multiple-tip array. Independent control over the writing process for each tip is achieved by holding the tip array at a fixed potential and varying the voltage applied to individual electrodes.

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[2]C.Cen, *et al.*, *Nature Materials* **7**, 298 (2008).

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