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Improved Performance of Deterministic Lateral Displacement Arrays with Triangular Posts[1] KEVIN LOUTHERBACK, KEVIN CHOU, Dept. of Electrical Engineering, JASON PUCHALLA, ROBERT AUSTIN, Dept. of Physics, JAMES STURM, Dept. of Electrical Engineering, Princeton University
— Deterministic lateral displacement arrays have shown great promise for sized-based particle analysis and purification in medicine and biology. Here we demonstrate that use of an array of triangular rather than circular posts significantly enhances the performance of these devices by reducing clogging, lowering hydrostatic pressure requirements and increasing the range of displacement characteristics. Experimental data and theoretical models are presented to create a compelling argument that future designs of deterministic lateral displacement arrays should employ triangular posts

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