Abstract Submitted
for the DFD16 Meeting of
The American Physical Society

Mathematical design of fluidic jets ADAM HAQUE, MARCUS ROPER, SARAH HAKIM, KAITLYN HOOD, UCLA, UCLA MYCO-FLUIDICS LAB TEAM — Recent experimental work has revealed the possibility of sculpting fluid jets by passing them through a sequence of fluid posts. Simplifying the transformation that occurs when a jet passes a post at finite Reynolds number, we ask: Are there rational ways to tailor the sequence of transformations to achieve a given jet shape? Studying these simplified transformations reveals fundamental constraints on what shape changes can be produced by single transformations, and suggests strategies for optimizing combinations of transformations to achieve desired jet shapes.

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Date submitted: 01 Aug 2016 Electronic form version 1.4