

Abstract Submitted  
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**To reduce drag, flap in front** LEIF RISTROPH, Department of Physics, Cornell University, JUN ZHANG, Courant Institute and Department of Physics, NYU — We demonstrate that, opposite of drafting racecars or cylinders, the leader of tandem flapping bodies in a moving fluid suffers less drag than the follower. Flexible rubber filaments interacting in a fast-flowing soap film synchronize frequency, though the bodies experience different streamwise forces correlated with amplitude of flapping. Drag reduction for the leading body is associated with the formation of a single coherent wake for the pair. This inverted drafting is robust to changes in material parameters and relative location of the bodies. The effect is also present in longer arrays of filaments.

Jun Zhang  
Courant Institute and Department of Physics, NYU

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