

Abstract Submitted  
for the DFD05 Meeting of  
The American Physical Society

**Marangoni propulsion by insects** DAVID HU, MIT, JOHN BUSH, MIT — Certain water-walking and terrestrial insects can propel themselves on the water surface by generating surface tension gradients. By secreting a surfactant, the water-walker *Microvelia* achieves peak speeds of 17 cm/s, or twice the peak walking speed. We here rationalize peak speeds and present experimental observations that yield insight into this novel form of propulsion. Particular attention is given to elucidating the means by which Marangoni stresses are communicated to the creature across its complex hair covering.

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Date submitted: 04 Aug 2005

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