

Abstract Submitted
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Simplified physical models of the flow around flexible insect wings at low Reynolds numbers STEVE HARENBERG, JOHNNY REIS, LAURA MILLER, UNC - Chapel Hill — Some of the smallest insects fly at Reynolds numbers in the range of 5-100. We built a dynamically scaled physical model of a flexible insect wing and measured the resulting wing deformations and flow fields. The wing models were submerged in diluted corn syrup and rotated about the root of the wing for Reynolds numbers ranging from 1-100. Spatially resolved flow fields were obtained using particle image velocimetry (PIV). Deformations of the wing were tracked using DLTdv software to determine the motion and induced curvature of the wing.

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