

Abstract Submitted  
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**Lagrangian coherent structures in jetting and paddling jellyfish swimming** DOUG LIPINSKI, KAMRAN MOHSENI, Univ. of Colorado — Lagrangian coherent structures (LCS) are a relatively new technique for visualizing and analysing structures and transport in complex fluid flows. In this study, we use LCS to examine the flow created by swimming jellyfish. We focus on identifying structures which contribute to feeding and propulsion and find several interesting results. Jellyfish which use different methods of propulsion create very different flow structures during swimming which are complimentary to the type of propulsion used. Additionally, we investigate the relationship between flow structures, pressure and swimming performance for the jetting Jellyfish, *Sarsia tubulosa*. We have previously detected structures within the bell of *Sarsia tubulosa* and we now focus on examining how these structures may impact the jellyfish's swimming.

Doug Lipinski  
Univ. of Colorado

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