



THE UNIVERSITY OF EDINBURGH
SCHOOL OF ENGINEERING
INSTITUTE FOR ENERGY SYSTEMS

VOILAb Vortex
Interaction
Collaboratory

Improving Performance in Separated Flows and the Future of Spinnaker Technology

Jean-Baptiste R. G. Soupez

Senior Lecturer in Yacht Design and Composite Engineering | Solent University

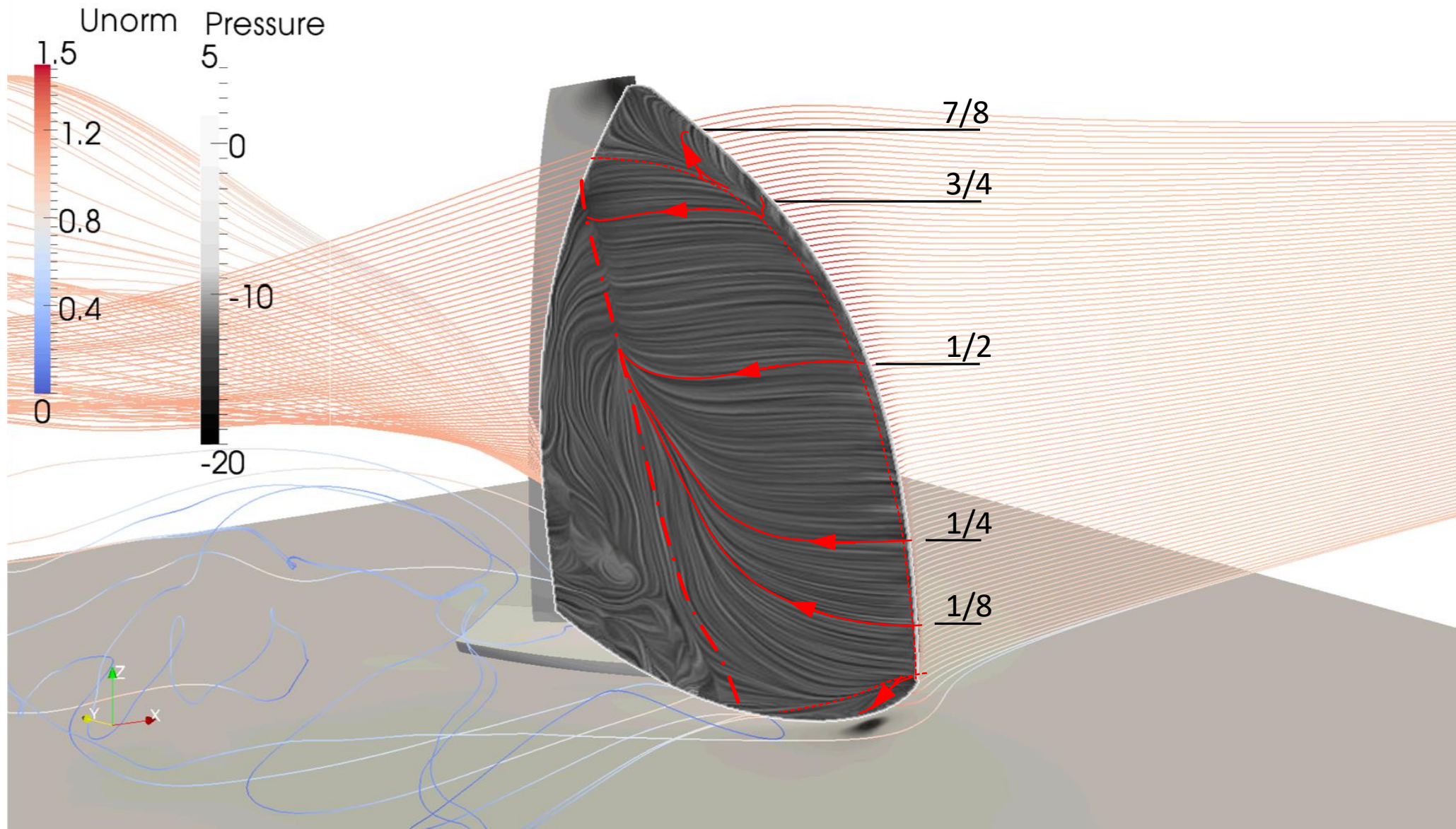
UK Principal Expert in Small Craft Structures | British Standards Institution

Deputy Editor-in-Chief | SNAME Journal of Sailing Technology

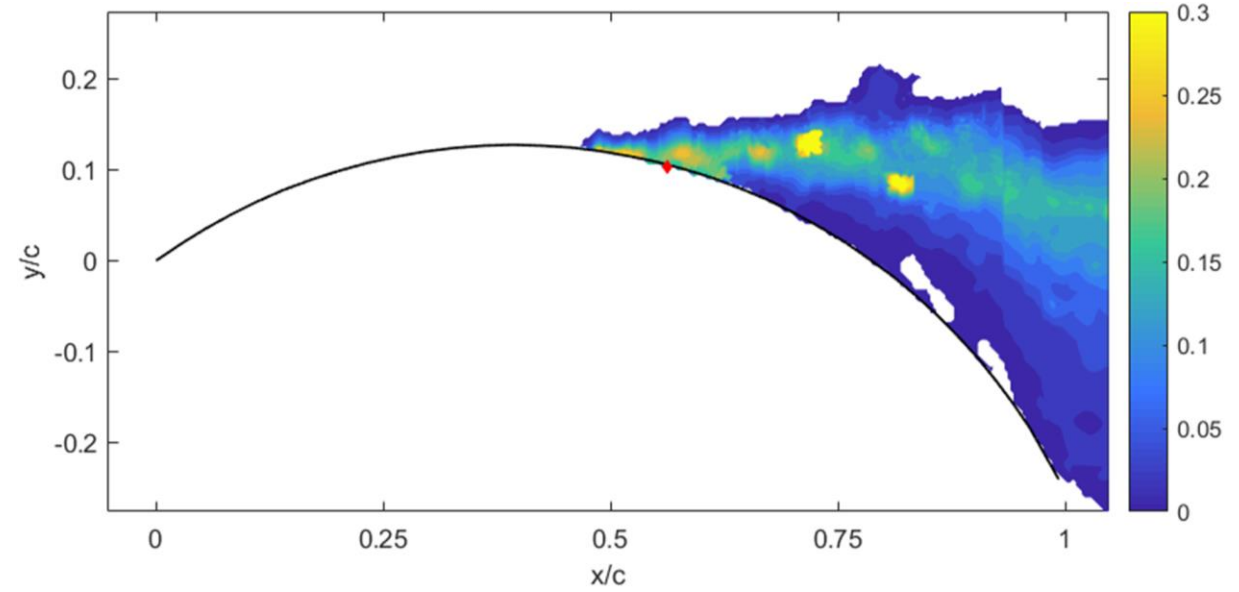
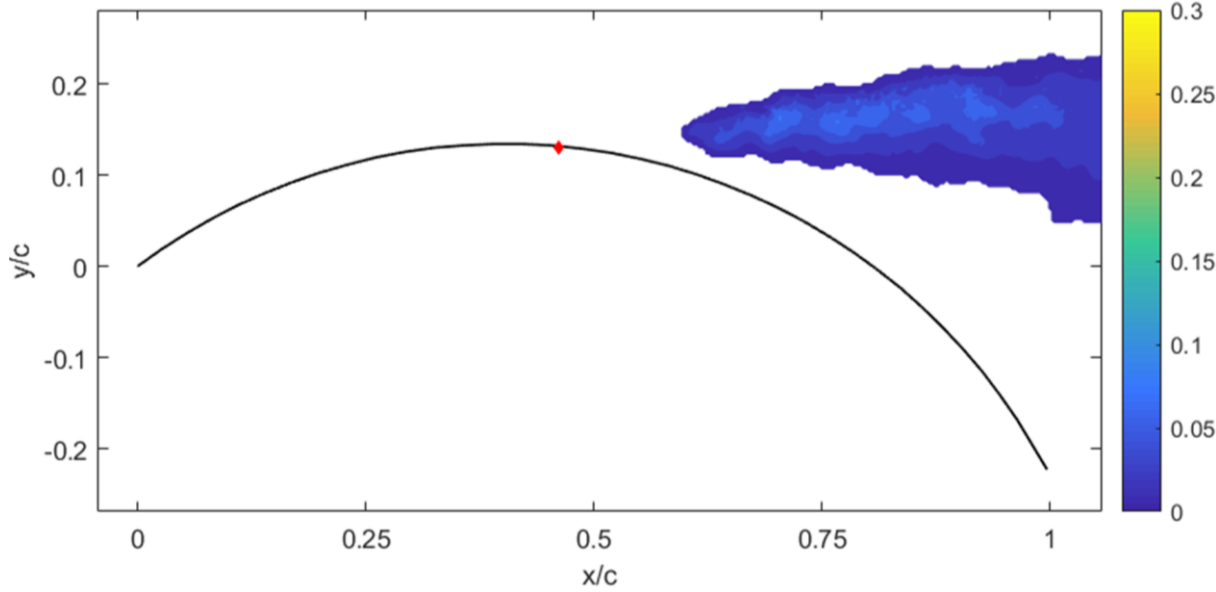
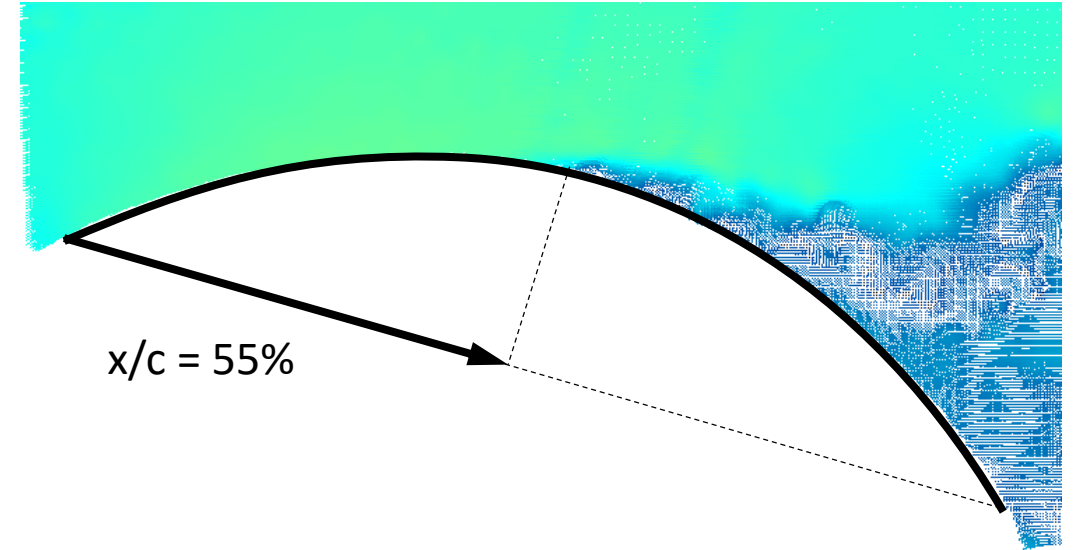
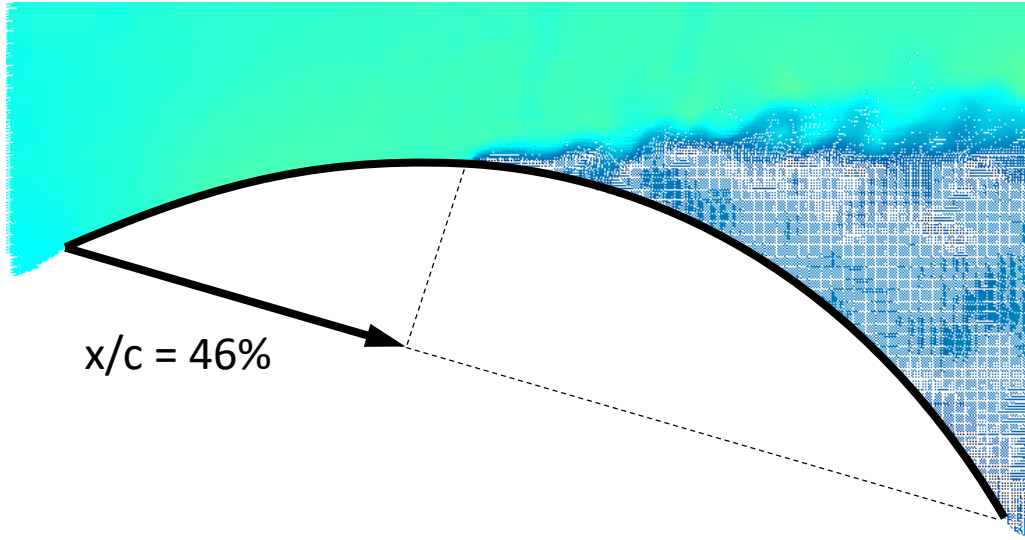
PhD Candidate | University of Edinburgh

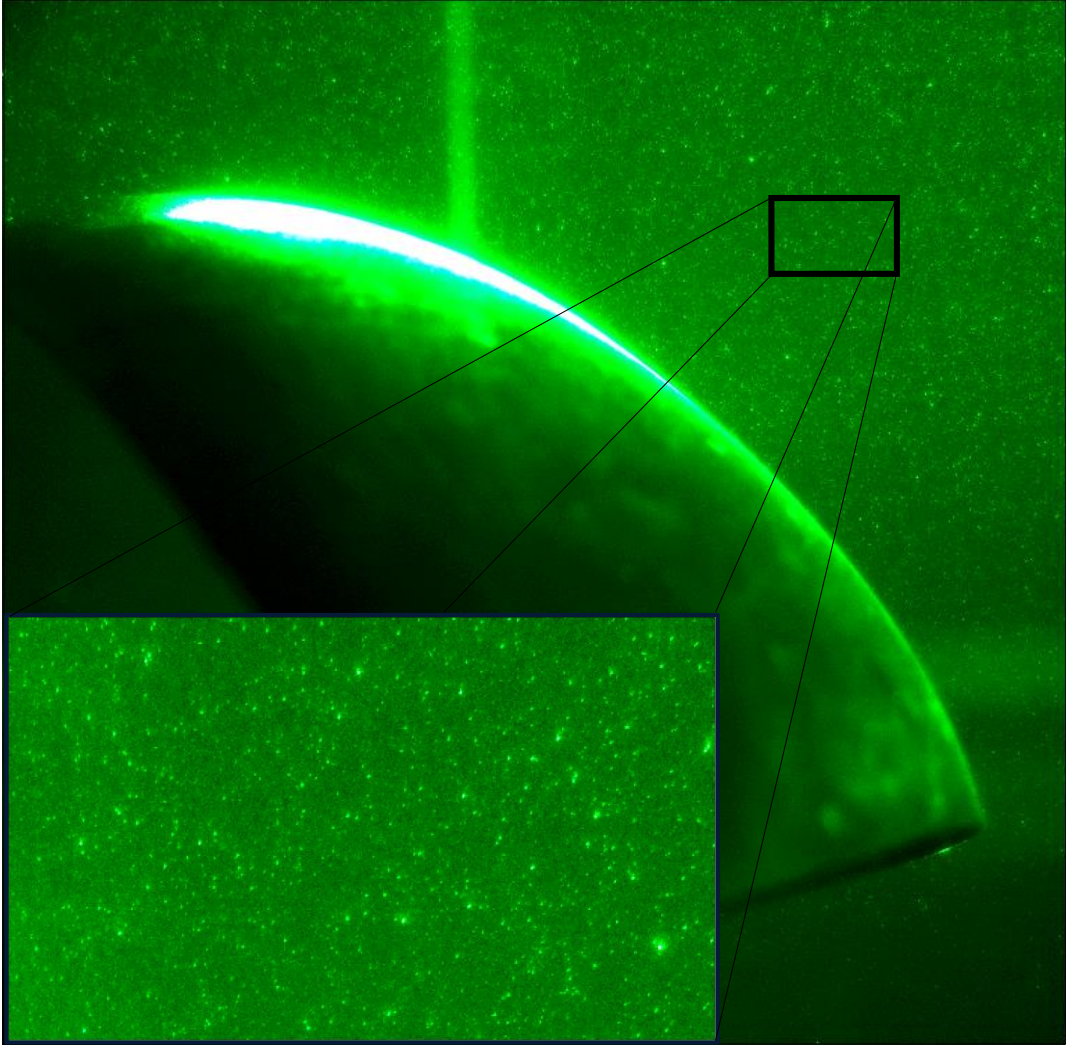
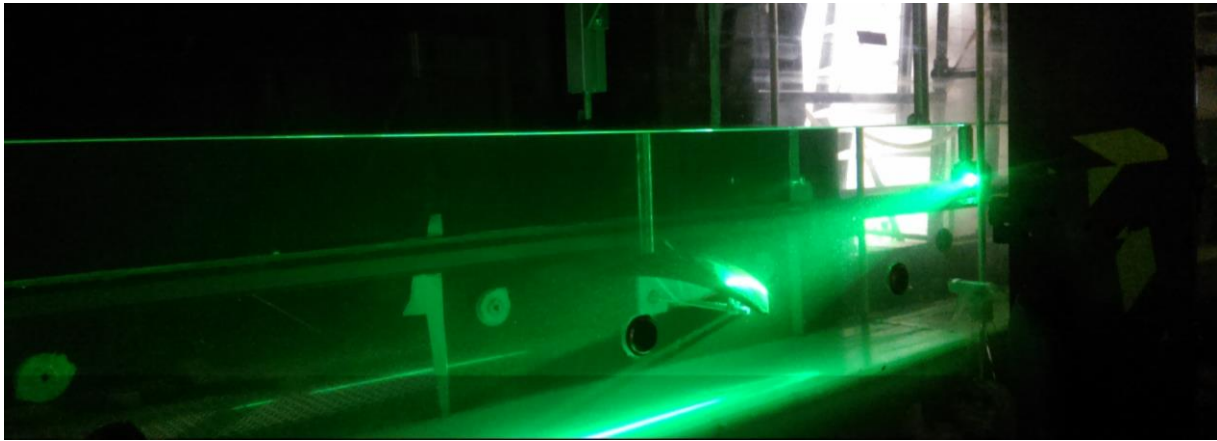
jean-baptiste.soupez@solent.ac.uk

2019 Yacht Racing Forum
Design and Technology Symposium
Bilbao – 25th November 2019
New Talent in Sailing Technology





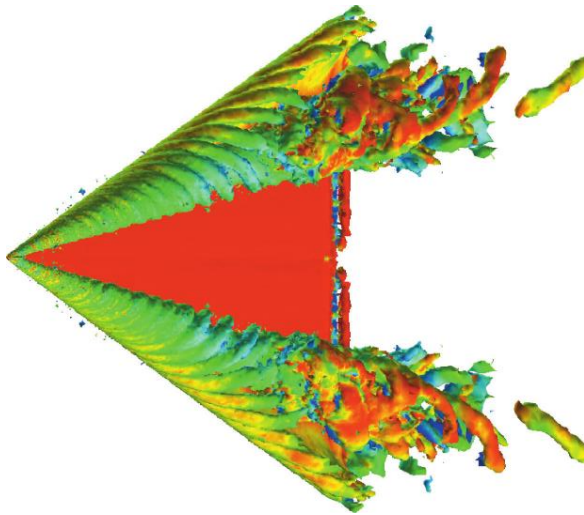




Images courtesy of A. Arredondo-Galeana

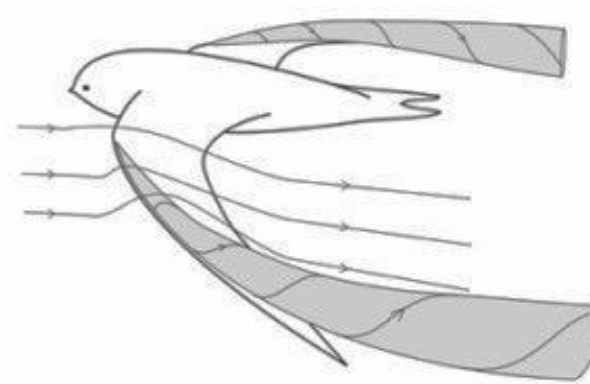
1. Leading Edge Vortex

Delta wing



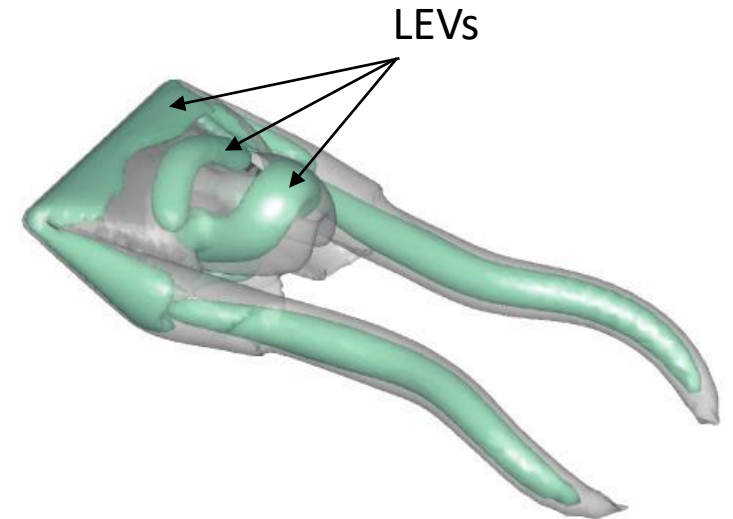
Mitchell *et al.* 2006

Bird wing

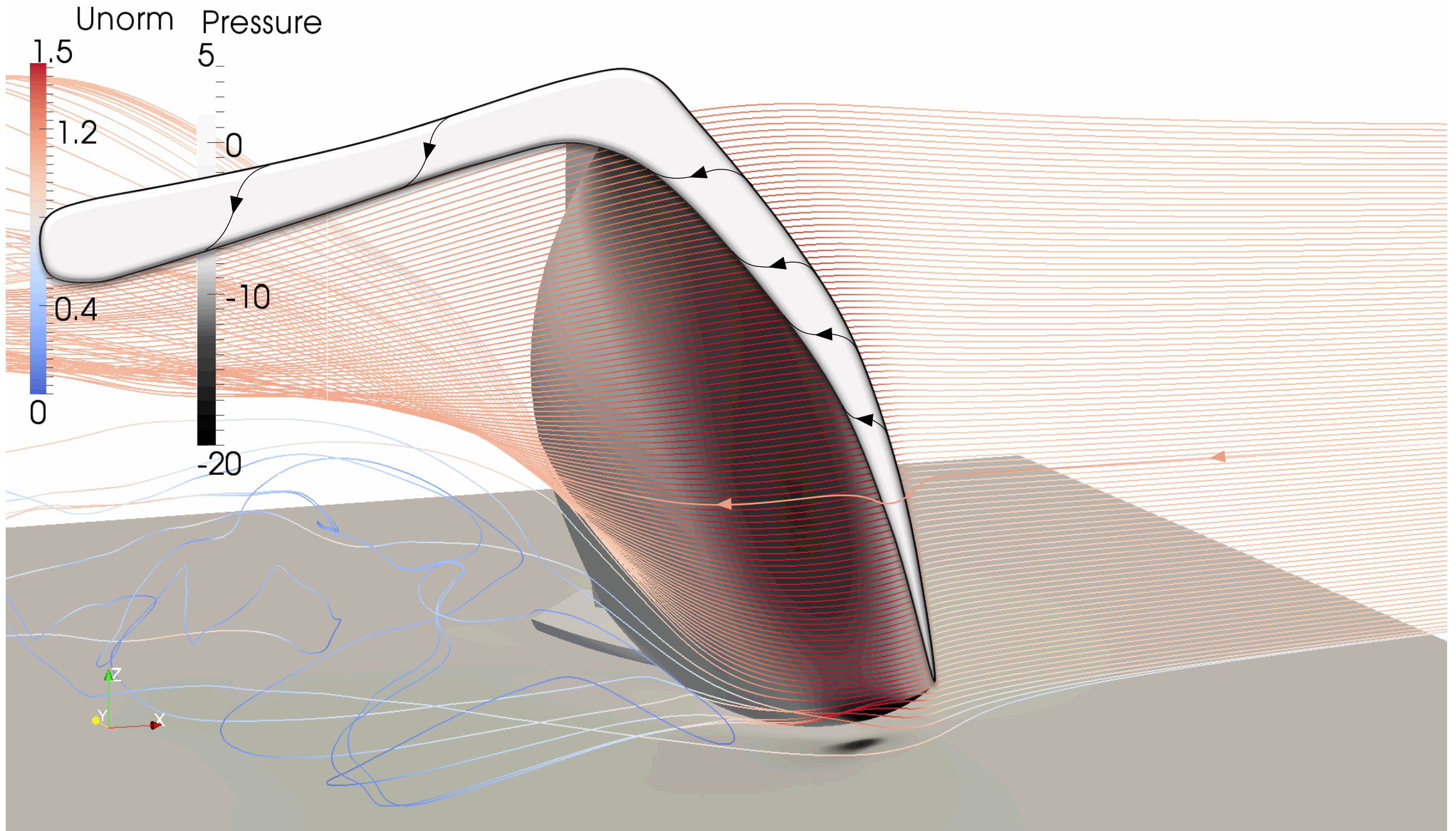


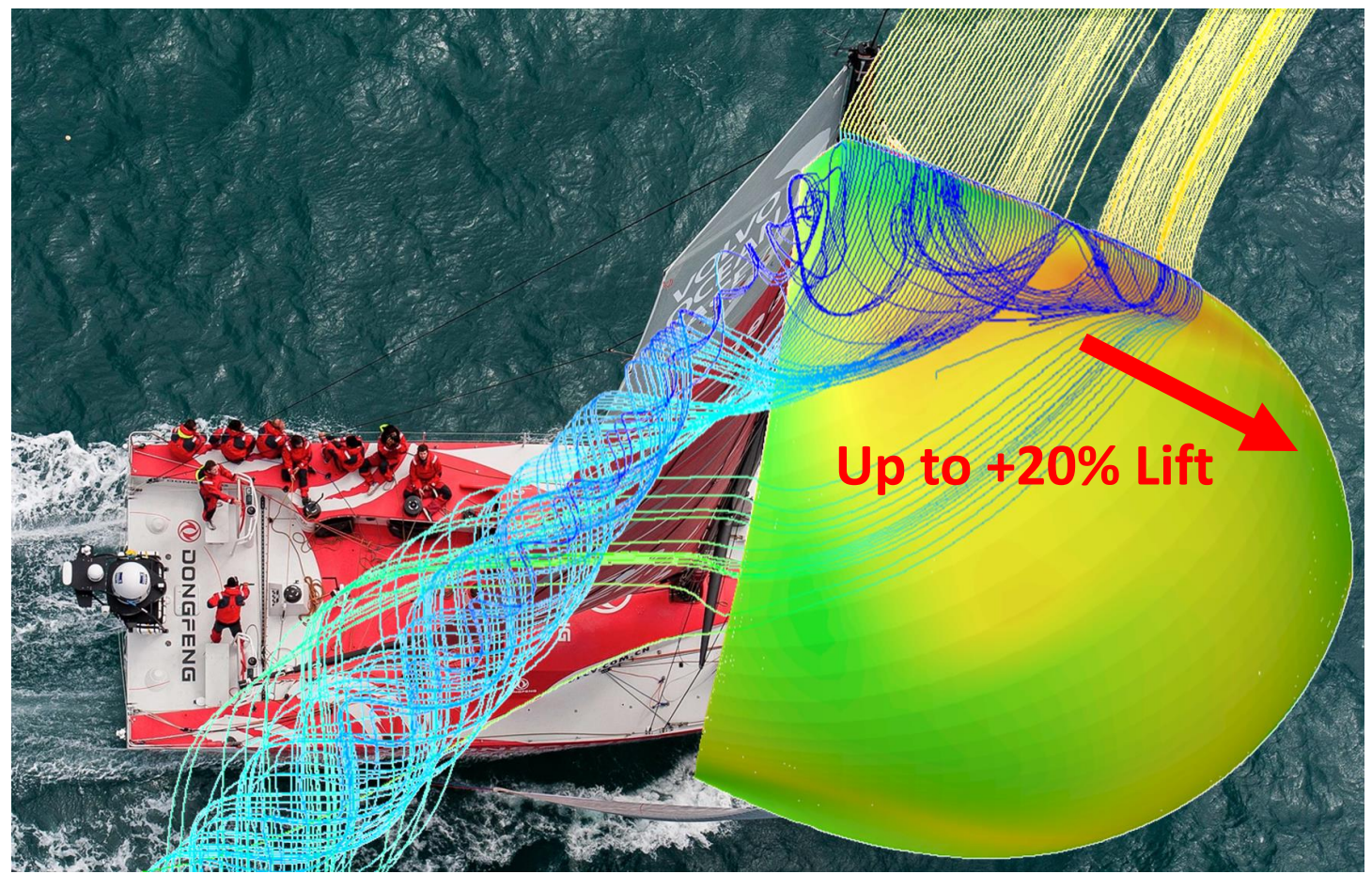
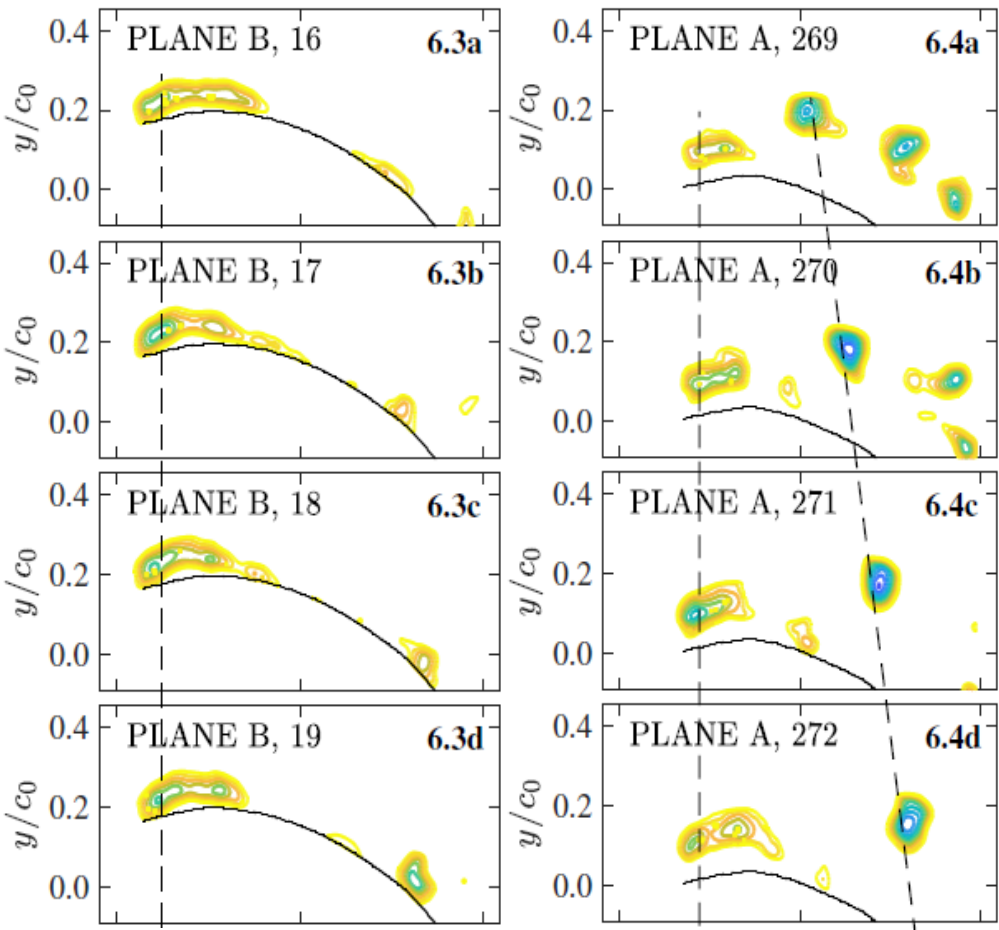
Videler *et al.* 2004

Accelerating plate

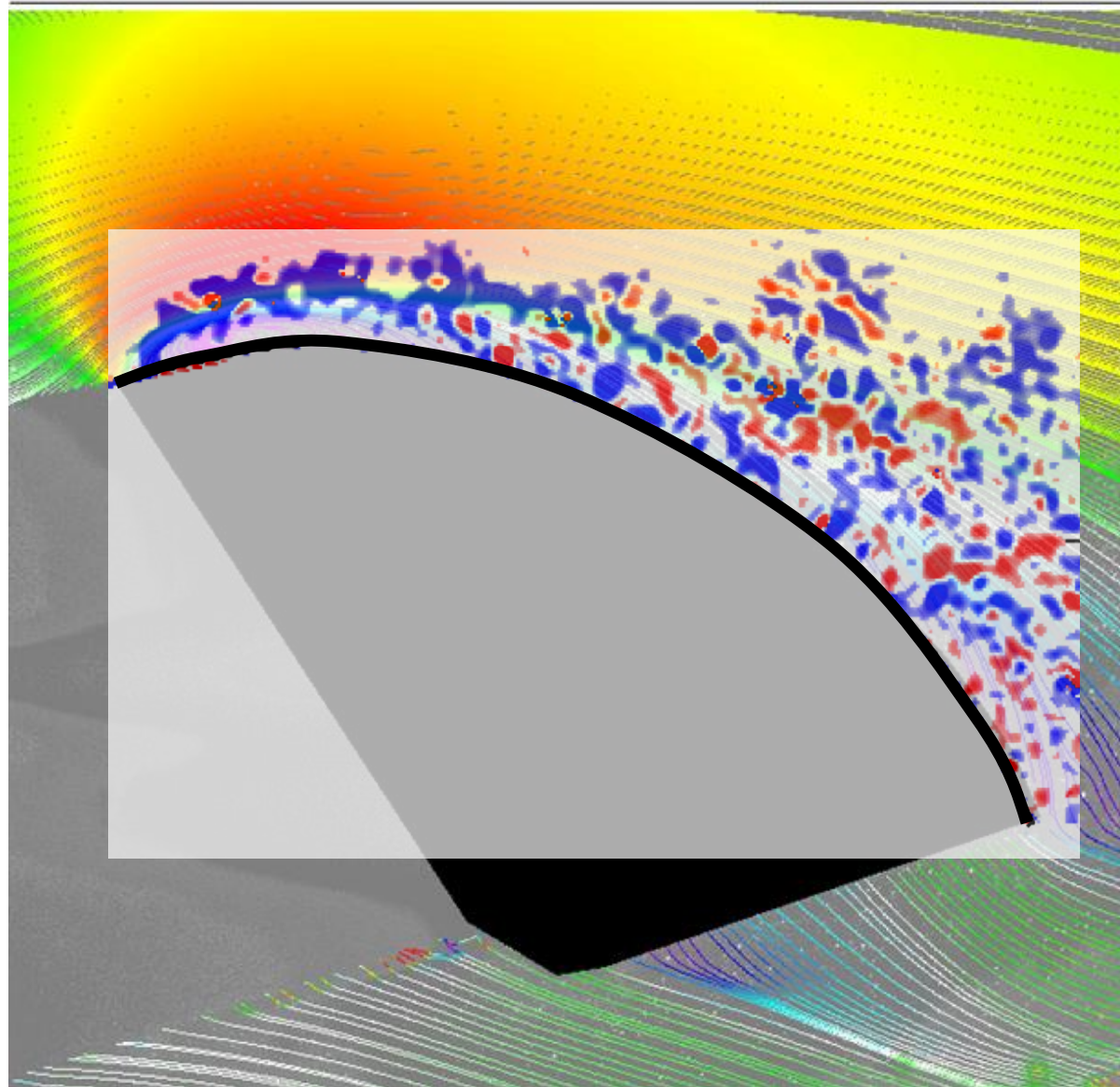


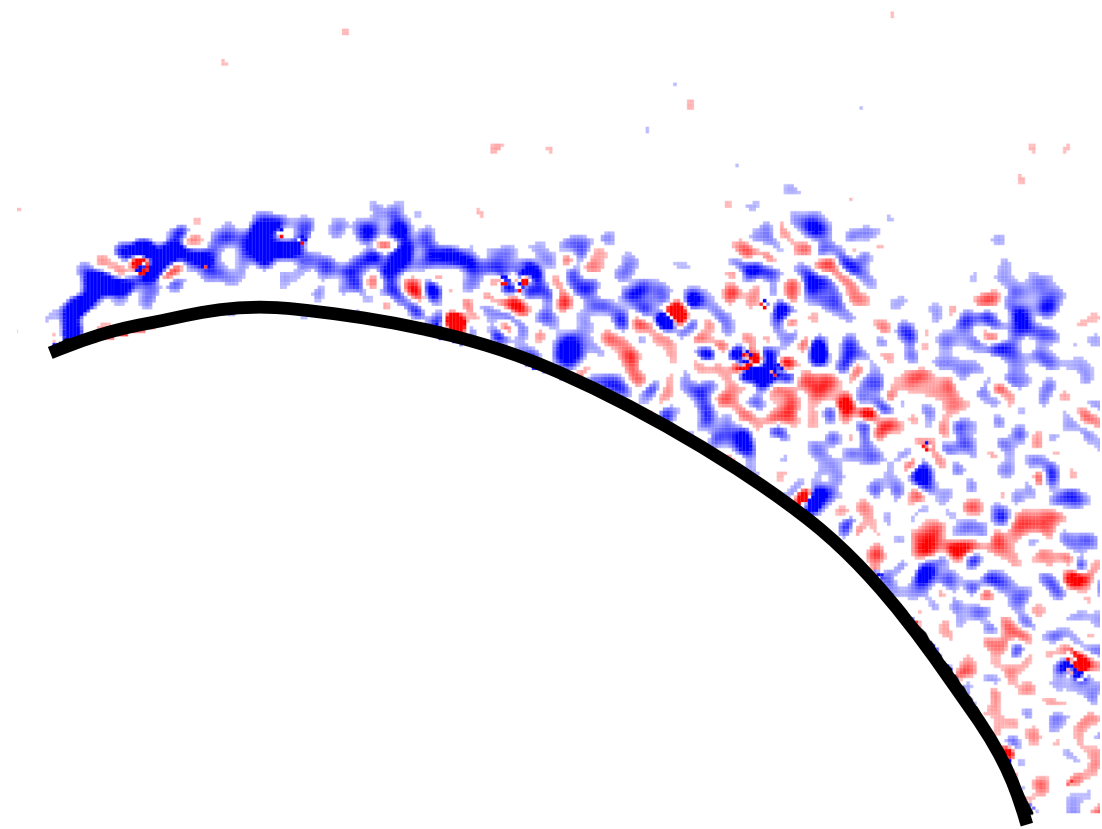
Taira & Colonius, 2009

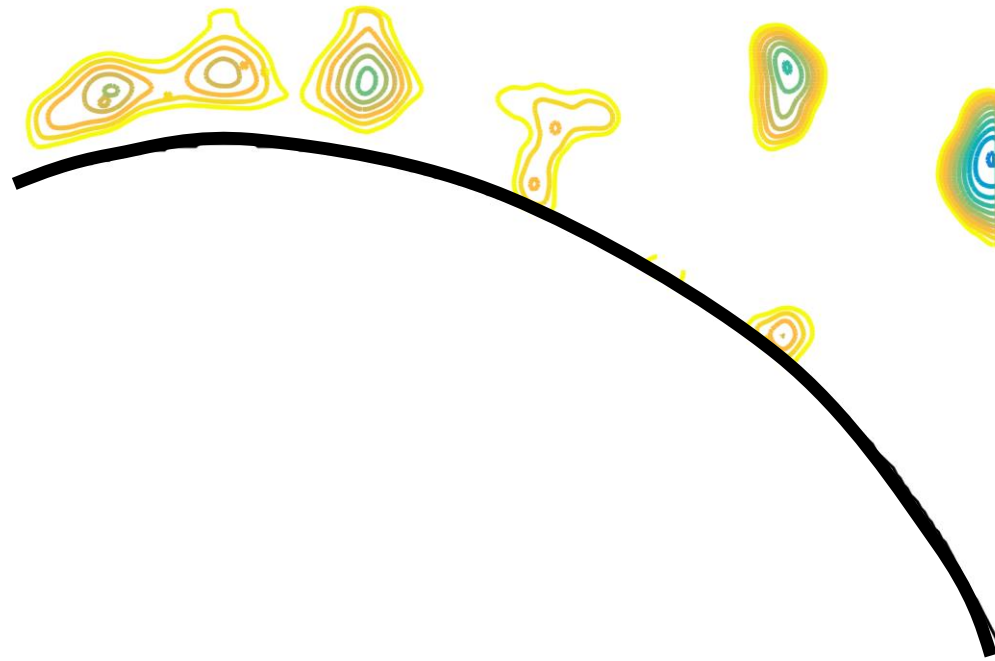


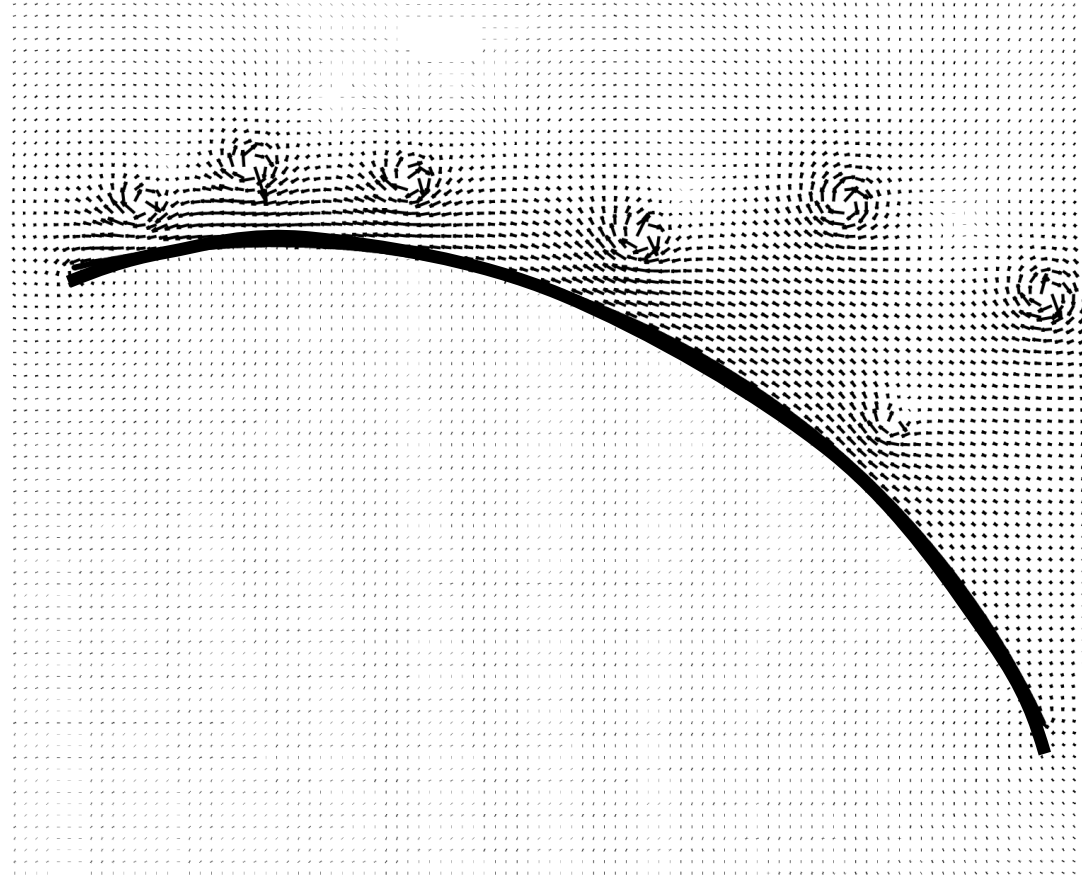


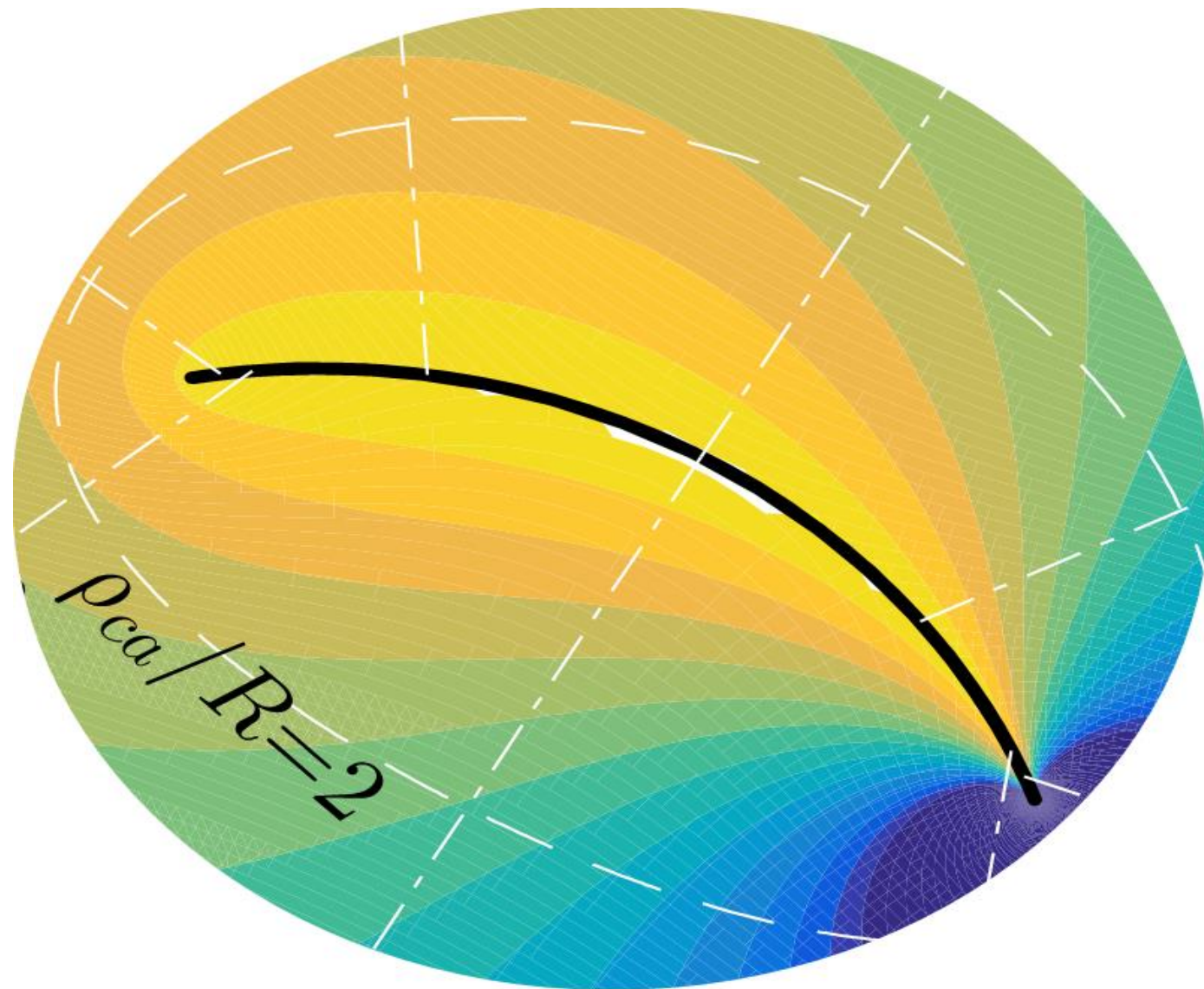
2. Improved Performance by Design





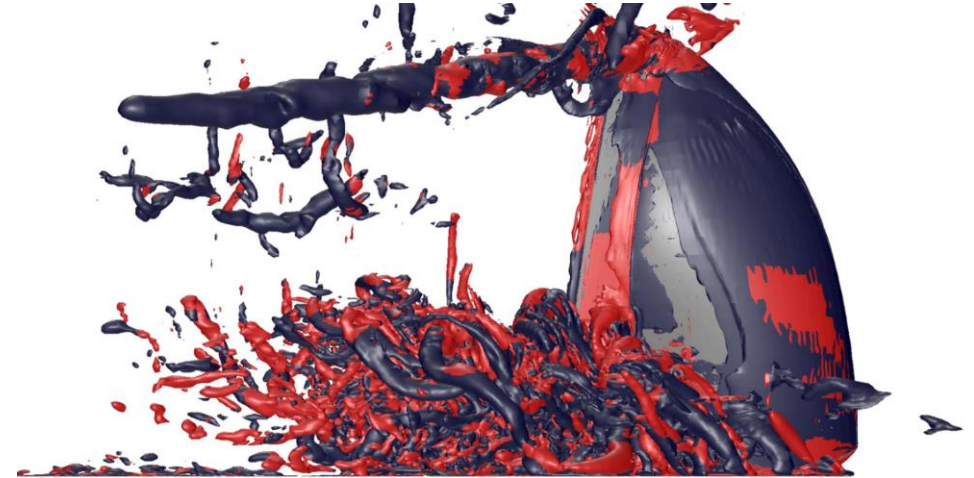






Conclusions:

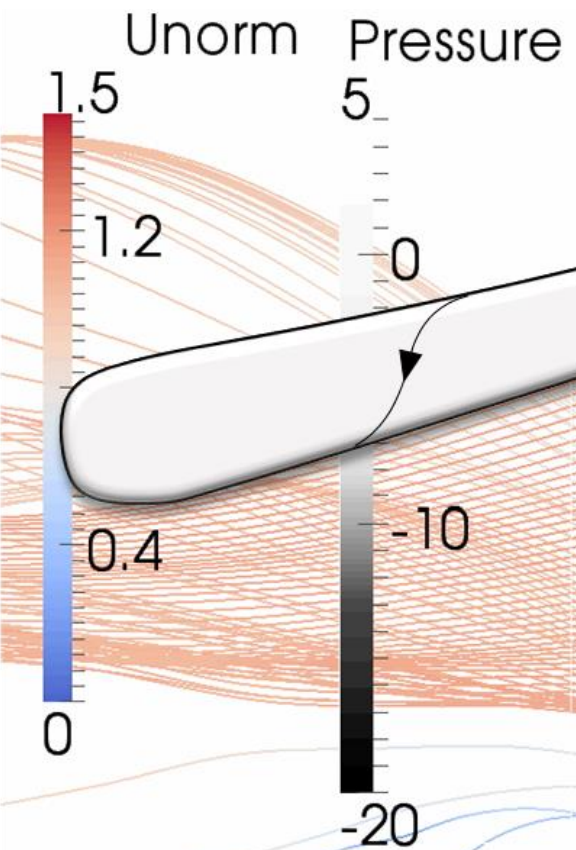
- Separated Flow in Racing Yachts
- Spinnaker Case Study
- Leading Edge Vortex
- Improve Performance by Design



This research was awarded the:

2018 **Research, Innovation and Knowledge Exchange Award** (Maritime Trust Fund)

2019 **Stanley Gray Fellowship** (Institute of Marine Engineering, Science and Technology)



VOILAb

Vortex
Interaction
Collaboratory

 @VOILAb_UoE



THANK YOU

Jean-Baptiste R. G. Soupez

Senior Lecturer in Yacht Design and Composite Engineering | Solent University
UK Principal Expert in Small Craft Structures | British Standards Institution
Deputy Editor-in-Chief | SNAME Journal of Sailing Technology
PhD Candidate | University of Edinburgh

jean-baptiste.soupez@solent.ac.uk