

Abstract Submitted  
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**Two-dimensional sails in a uniform potential flow** MICHAEL BOOTY, New Jersey Institute of Technology, JEAN-MARC VANDEN BROECK, University of East Anglia — We consider a spatially two-dimensional potential flow model for the shape of and lift generated by a single or a pair of inextensible membranes or ‘sails’ in a uniform stream. The problem is solved numerically via the boundary integral method. Of interest are (i) the ‘luffing’ of a sail, which occurs when it is nearly aligned with the oncoming stream, (ii) the interaction of a pair of sails that share a common near-field, and (iii) possible optimal distributions of chord between two sails and relative orientations that can maximize the total lift generated.

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