Phase averaged iso-vorticity maps (Q-criterion) around an undulatory swimmer made of a 170 μm thick Mylar sheet of aspect ratio 0.33 (span/chord), pitching sinusoidally at the leading edge, with an amplitude of 50 degrees and a flapping frequency of 1 Hz in a still water tank.

Volumetric velocity flow field measurements (3 components and 3 dimensions) were obtained using Defocusing Digital Particle Image Velocimetry. The kinematics of the foil were measured using high speed imaging.