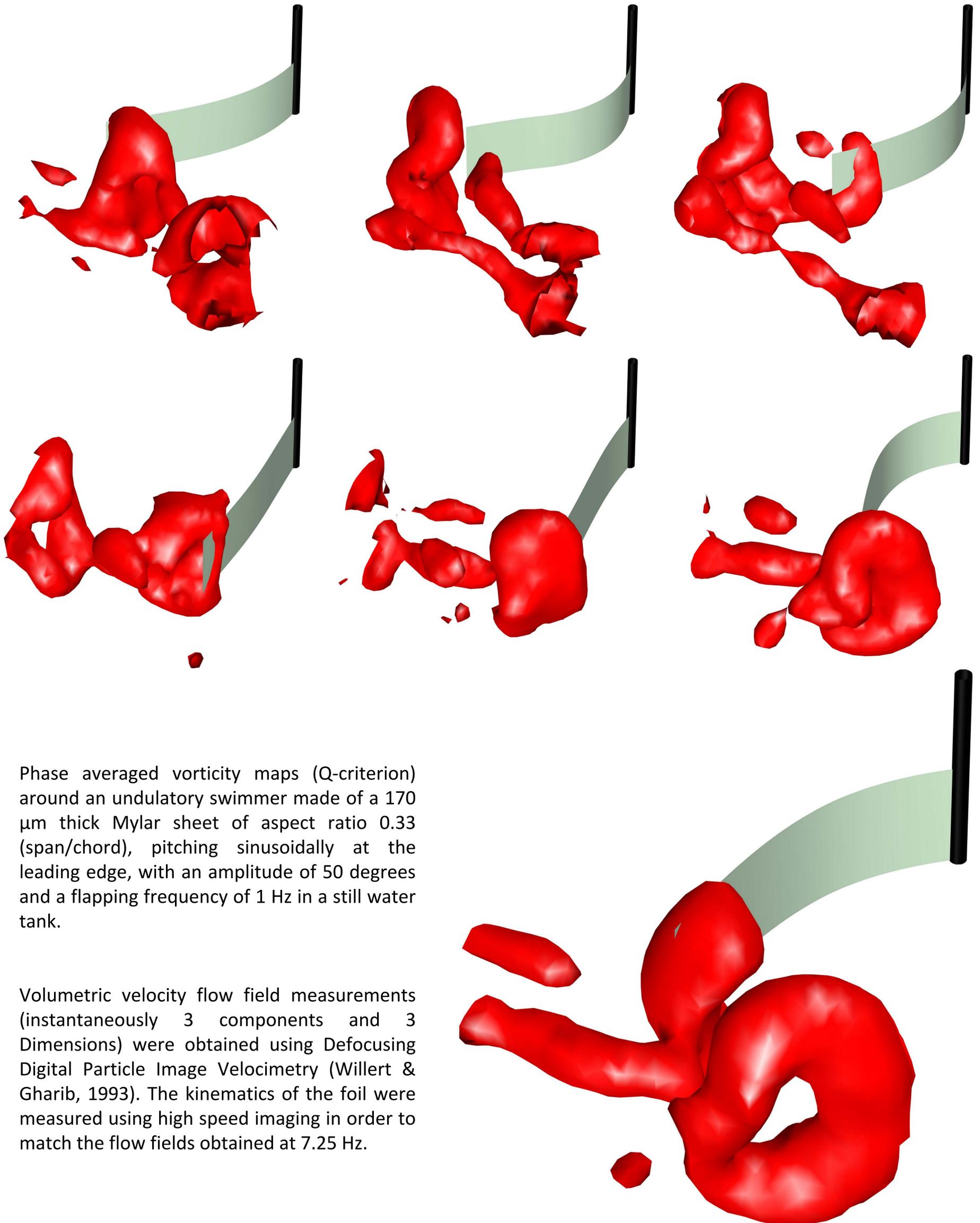


Three-dimensional volumetric velocimetry in the wake of an undulatory swimmer

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Phase averaged 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 (instantaneously 3 components and 3 Dimensions) were obtained using Defocusing Digital Particle Image Velocimetry (Willert & Gharib, 1993). The kinematics of the foil were measured using high speed imaging in order to match the flow fields obtained at 7.25 Hz.