Effect of trailing edge shape on the wake and propulsive performance of pitching panels

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We present the effects of the trailing edge shape on the wake and propulsive performance of a pitching panel with an aspect ratio of 1. The trailing edges are symmetric chevron shapes with convex and concave orientations of varying degree. Concave trailing edges delay the natural vortex bending and compression of the wake, and the streamwise velocity field contains a single jet-like structure. Conversely, convex trailing edges promote wake compression and produce a wake split into four jets. Deviation from the square trailing edge mostly reduces the thrust and efficiency.

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