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Flag flapping in a channel SILAS ALBEN, University of Michigan, KOUROSH SHOELE, RAJAT MITTAL, Johns Hopkins Univ., SOURABH JHA, ARI GLEZER, Georgia Tech — We study the flapping of a flag in an inviscid channel flow. We focus especially on how quantities vary with channel spacing. As the channel walls move inwards towards the flag, heavier flags become more unstable, while light flags' stability is less affected. We use a vortex sheet model to compute large-amplitude flapping, and find that the flag undergoes a series of jumps to higher flapping modes as the channel walls are moved towards the flag. Meanwhile, the drag on the flag and the energy lost to the wake first rise as the walls become closer, then drop sharply as the flag moves to a higher flapping mode.

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