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**Using falling soap film to visualize flow in a wavy channel** VON-TRAVIS MONTS, OSAZUWA EDOKPOLO, ZACHARY MILLS, ALEXANDER ALEXEEV, Georgia Institute of Technology — The disturbances created by the walls of a sinusoidal shaped channel lead to the development of unsteady, time periodic flow. This periodic flow is the result of vortex shedding occurring along the crests of the channel walls. We used a falling soap film to investigate the influence of the channel geometry on the flow. In falling soap films, variations in the thickness of the film correspond to streamlines in the flow. These thickness variations are made visible by reflecting monochromatic light off the film. This allows for soap films to be an accurate, but inexpensive method of visualizing two dimensional flows. In our experiments we used a gravity driven soap film flowing through a wavy channel of several periods and used a high speed camera to record the resulting flow. The collected footage was then analyzed to collect data on the flow. From this data we were able to characterize the dependence of the size of the vortices and their shedding frequency on the amplitude and period of the sinusoidal channel walls as well as the Reynolds number of the flow.

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