

Abstract Submitted  
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**Flow behaviour around tripped circular cylinders** ANTRIX JOSHI, ALIS EKMEKCI, University of Toronto — An experimental study is carried out to investigate if the effects of multiple spanwise tripwires fitted on a circular cylinder in subcritical flow can be explained and predicted using the knowledge accumulated on the influence of only one spanwise tripwire. For this purpose, this study compares the vortex shedding frequency behind circular cylinders fitted with one, two and four spanwise wires. In the two-wire and four-wire fitted cases, the separation between the wires on the cylinder surface is arbitrarily selected as  $90^\circ$ . Frequency measurements were done for varying tripwire locations. The Reynolds number was kept at the subcritical value of 10,000 (based upon cylinder diameter). The tripwires were approximately 6% the diameter of cylinder. Results showed that a correlation exists between the effects of single- and multi-wire tripping, and a set of rules can be devised to predict the vortex shedding frequencies around a circular cylinder with complex two-dimensional tripping configurations.

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