

Abstract Submitted  
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**Vortex-induced vibration of a harbor-vibrissa-shaped cylinder: Experimental measurements.**<sup>1</sup> YINGZHENG LIU, SHAOFEI WANG, School of Mechanical Engineering, Shanghai Jiao Tong University, China — Influence of the unique surface variation of the harbor seal vibrissa on its vortex-induced vibration was extensively investigated in a low-speed wind tunnel. Toward this end, a scaled-up model of the harbor-vibrissa-shaped cylinder was employed for measurement, while a circular cylinder sharing the same hydraulic diameter, mass ratio and nature frequency was used as baseline case. Two configurations with and without the approaching Karman-vortex street were respectively tested for both cylinders at various free stream flow speeds. Here, the Karman-vortex street was generated by placing a circular cylinder far up stream. A laser displacement sensor having a high time-spatial resolution was used to capture the cross-stream displacement of the cylinders. The fluctuating pressure distribution on the surface and the wake flow pattern were captured by microphone array and the planar Particle Image Velocimetry, respectively.

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