

Abstract Submitted
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Direct measurement of aeroacoustic source spectrum due to a jet/wall interaction¹ SHANE LANI, MICHAEL KRANE, ARL Penn State —
The aeroacoustic source spectrum due to a turbulent jet passing over an obstruction is found experimentally. The model consists of a constriction and planar obstacle in a duct with dimensions commensurate with the those of a human vocal tract. An unsteady jet formed at a constriction interacts with a planar obstruction downstream with the jet normal to the planar surface. The aeroacoustic source spectrum is found both by measuring the unsteady force imparted on the planar obstruction as well as measuring radiated sound outside the duct. A comparison of the force spectrum to the inverse-filtered radiated sound measurements will be presented.

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