## Abstract Submitted for the DFD07 Meeting of The American Physical Society

Aeroacoustics of unvoiced human speech sound production DANIEL LEONARD, MICHAEL KRANE, Penn State University — Measurements of airflow and sound were performed in an idealized model of the human vocal tract in order to determine the aeroacoustic sources which give rise to unvoiced consonant speech sounds. The turbulent jet formed at a narrow constriction interacts with another constriction further downstream. The unsteady aerodynamic forces on these constrictions produce broadband sound, which is modulated by the acoustic response of the vocal tract. Sound source characteristics are determined by estimating the force on the constrictions, and how the temporal behavior of these forces correlates to the spatial and temporal structure of the jet. (Supported by NIH grant 5R01 DC00564245.)

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