

Abstract Submitted  
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**Dynamic importance of unsteady effects in glottal flow aerodynamics**<sup>1</sup> MICHAEL KRANE, JOEL PELTIER, RICHARD MEDVITZ, Penn State University — Finite element computations of flow through a constriction are used to illuminate the role of unsteady flow dynamics in glottal flow and voice production. Unsteady computations were performed for a series of prescribed idealized vocal fold wall motions over reduced frequencies  $f^*=0, 0.04$  and  $0.08$ , which correspond to quasi-steady, adult male and adult female speaking voices, respectively. Glottal resistance and estimates of the relative magnitudes of the various terms of the integral momentum equation are presented. Results suggest that glottal flow is inherently unsteady.

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