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Measurement of Glottal Flow across Scaled Up Dynamic Vocal Fold Motion ERICA SHERMAN, RPI, MICHAEL KRANE, Penn State ARL, LUCY ZHANG, TIMOTHY WEI, RPI — An experiment to provide DPIV measurements of dynamic human vocal folds motion is presented. The experiment is run in a free-stream water tunnel using a 10x scaled-up model of the human vocal folds and vocal tract. The vocal fold model is a new design that incorporates both the rocking as well as the oscillatory open/close motions characteristic of vocal fold motions The Reynolds number and Strouhal number have been matched to human physiologic conditions. Flow measurements show the start-up jet, vortex dynamics and ultimate jet pinch-off as the model progresses through a cycle. The effects of asymmetries associated with disease will be discussed.

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