

Abstract Submitted
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Numerical study of human vocal folds vibration using Immersed Finite Element Method¹ XINGSHI WANG, LUCY ZHANG, MICHAEL KRANE, Rensselaer Polytechnic Institute — The voice production procedure is a self-oscillating, fluid-structure interaction problem. In this study, the vocal folds vibration during phonation will be simulated by self-oscillated layered-structure vocal folds model, using Immersed Finite Element Method. With the numerical results, we will find out the vocal folds vibration pattern, and also show how the lung pressure, stiffness and geometry of vocal folds will affect the vocal folds vibration. With further analysis, we shall get better understanding of the dynamics of voice production.

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