

ACOUSTICS2008/2152 Observation of voice registers

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In singing, voice register is one of the most salient aspects of voice quality, and it has therefore generated a lot of debates, acoustically, physiologically, and pedagogically. In singing, the voice registers can be physiologically classified into four categories: vocal fry, modal, falsetto, and whistle. In this study, vocal fold vibratory patterns appeared in each register were observed using high-speed images and simulated using the two-mass model. In vocal fry, three different vibratory patterns (aperiodic, subharmonic, and periodic with small open quotient) were observed. In addition, the simulation showed that transitions between the three different vibratory patterns are easy. In whistle, closure of the posterior part of glottis and rapid vibration of the anterior part were observed.