Supplementary material for "Quantifiying acoustic damping using flame chemiluminescence"

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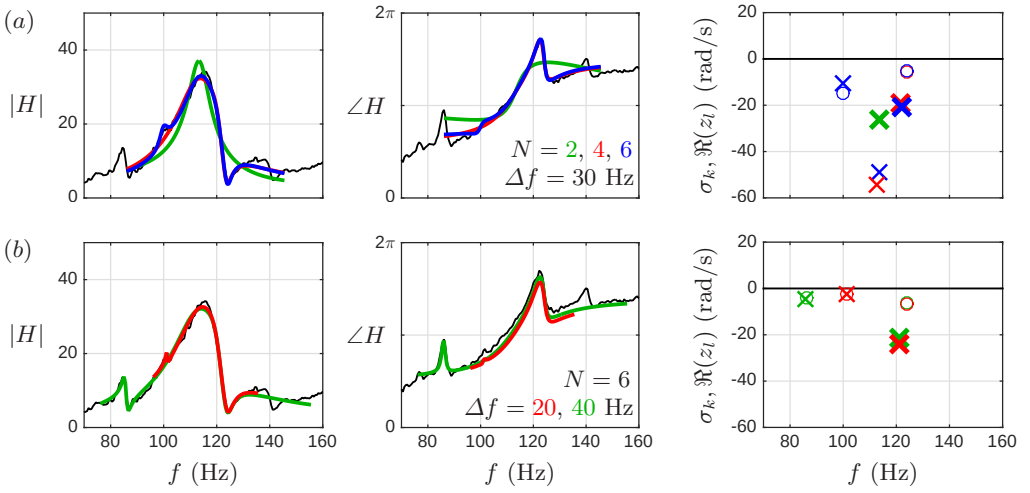

FIGURE 1. Simultaneous fit of the gain and phase of the acoustic transfer function $H(f)$, and corresponding poles ($\times$) and zeros ($\bullet$) for different orders N and frequency ranges $f_p \pm \Delta f$: (a) $N = 2$, 4 and 6, $\Delta f = 30$ Hz; (b) $N = 6$, $\Delta f = 20$ and 40 Hz. Bold crosses indicate the dominant pole λ_a in the vicinity of the peak frequency f_p. Equivalence ratio $\Phi = 0.538$.

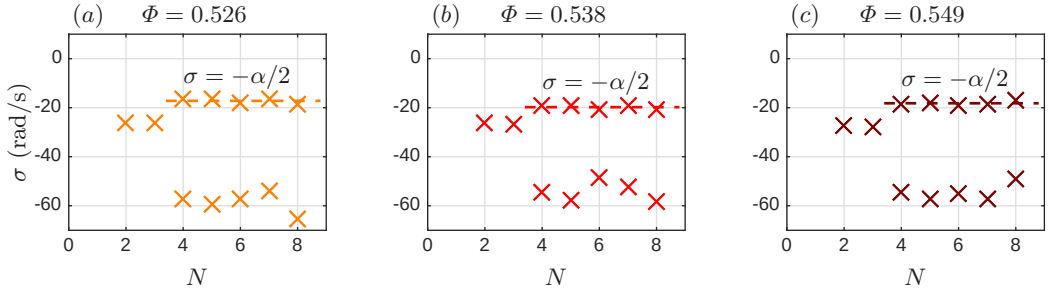

FIGURE 2. Real part of the poles identified in the vicinity of the peak frequency f_p, vs. order N of the fitting transfer function. (a) $\Phi = 0.526$, (b) $\Phi = 0.538$, (c) $\Phi = 0.549$. Dashed lines show the real part σ of the identified dominant pole.