TECHNICAL REPORT FOR "GENERATION OF PERSONAL SOUND ZONES WITH INTERFRAME CORRELATION" SUBMITTED TO ICASSP2022

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1. SIMULATIONS

1.1. Simulation setup

In the second simulation, we test the performance of the proposed algorithm for different α for subspace construction and different ER settings, and the results are shown in Fig. 1. As can be seen, when ER is fixed and α get larger, the AC increases, but the NSD also increases while the NAE is below 0 dB. On the other hand, when α is fixed, increasing ER leads to a larger AC and a lower NSD, for the frequencice between 100 to 300 Hz. The averaged subspace dimensions V for $\alpha = 0$, $\alpha = 0.2$ and $\alpha = 0.4$ are LP, $0.54 \times LP$ and $0.44 \times LP$, respectively. Therefore, setting $\alpha = 0.2$ can obtain a good trade-off between AC, NSD and computaional complexity.
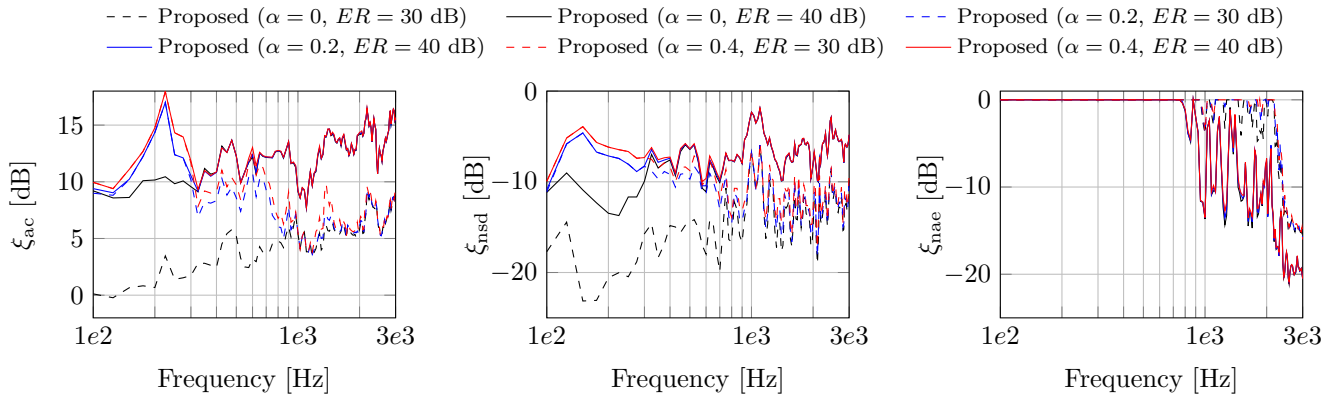

Fig. 1. The AC, NSD and NAE performance of the proposed algorithm with different α and ER.