ACOUSTICS2008/2196 Perception of Sound Source Distance and Loudness in a Coherent Field of a Reverberant Field

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Perception of reverberant sound field changes with a sound source distance(SSD). This article describes SSD perception in a coherent region close to the sound source in the reverberation field. We performed listening tests for SSD perception and loudness of speech and carried out transfer functions analysis using a reverberant room. We confirm that both SSD perception and loudness are correlated to the standard deviation of the magnitude frequency response of the transfer function in the coherent region. That is SSD erception and loudness increase as SSD becomes long in the coherent region. However loudness decreases in an incoherent region. Consequently, we surmise SSD perception in the coherent region might be due to increase in loudness.