

## ACOUSTICS2008/401 Effects of reverberation on spatial release from masking

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When sounds that we want to listen to (targets) and interfering sounds (maskers) are separated spatially, several advantages are observed relative to the baseline condition in which target and masker come from the same location. This paper will discuss how and to what extent these advantages are disrupted by room reverberation, which reduces better-ear signal-to-noise ratios and interaural intensity differences, and obscures interaural time differences. Statistical analysis of room acoustics combined with a model of binaural release from masking can, with the articulation index, help quantify expected reductions in speech recognition benefits of target/masker spatial separation in reverberation. This paper will also discuss some advantages of target/masker spatial separation that appear to be well preserved in reverberant rooms. Specifically, reverberation does not eliminate the perceptual differences between target and masker that arise from their different physical locations. The advantages of perceived spatial differences are seen when target and masking sounds share similar characteristics and are confusable with one another. In such cases spatial differences appear to resolve the confusion. This paper will describe research indicating that barely discriminable spatial differences between target and masker are sufficient for spatial release from masking in these circumstances. [Work supported by NIH DC-01625]