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**Influence of noise type, degree of comodulation and interaural  
phase difference on the combined monaural and binaural masking  
release**

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Several masking experiments have shown that the auditory system is able to use coherent envelope fluctuations of the masker across frequency within one ear as well as differences in interaural disparity between signal and masker to enhance signal detection. The two effects associated with these abilities are comodulation masking release (CMR) and binaural masking level difference (BMLD). The aim of the present study was to investigate the combination of CMR and BMLD. Thresholds of a sinusoidal signal were measured in a flanking band paradigm, i.e. in the presence of several narrowband noise maskers, (i) for two noise types (Gaussian and multiplied noise), (ii) various degrees of comodulation, and (iii) various interaural phase differences (IPD) of the signal. Thresholds decreased as the signal IPD increased and decreased as the masker comodulation increased. For both noise types, the maximum CMR was about 10 dB and the maximum BMLD was about 14 dB. Thresholds where monaural and binaural cues were present showed an addition of the single effects, i.e. a maximum masking release of 24 dB. A simplified model of the auditory system assuming a serial alignment of the across-frequency and the binaural processing stages is able to reproduce the dataset.