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### Auditory masking using Gaussian-windowed stimuli

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This study investigates auditory masking with Gaussian-windowed tones as target and masker stimuli. On the purpose of developing a time-frequency masking model, such stimuli minimize the time-frequency uncertainty. Also, as proposed by van Schijndel *et al.* (1999), they activate a single spectro-temporal observation window of the auditory system. The study presented here measured auditory masking with Gaussian-windowed stimuli with an ERB of 600 Hz and an effective duration of 9.6 ms. The masker was centered at 4 kHz. Its level was 60 dB SL. Four experiments were conducted. (1) Absolute thresholds for Gaussian-windowed and 300-ms-sinusoidal targets were measured and compared for 11 frequencies. (2) Masking patterns were obtained with targets of various frequency separations from the masker. (3) Forward masking functions with 4-kHz targets were measured at 5 temporal separations. (4) Forward masking was measured for different frequency separations between masker and target. These data are compared with those typically obtained with stimuli that are broader either in the frequency or time domain. A modelling attempt is made. A accompanying article on multiple masker additivity based on the present results is presented at the same conference (Laback *et al.*). *Work partly supported by EGIDE (PAI Amadeus) and the ANR.*