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**MEG measures of the auditory steady-state response: Sinusoidal
and non-sinusoidal stimuli**

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Human sensitivity to amplitude modulation has long been of interest to researchers, both in behavioural and neurological measures. Processing of amplitude modulation is implicated in the process of speech perception and sinusoidal amplitude modulation is used extensively to probe the mechanisms involved in encoding this information. The temporal envelope of speech is more accurately described as bursts of modulation rather than continuous modulation and the current work exposes participants to a continuum of modulation waveforms; from sinusoidal to pulsatile. Waveforms were amplitude modulated at 4 Hz and imposed upon a 500 Hz pure-tone carrier. The waveforms were generated using raised-cosine pulses with different half-durations. Half-durations of 8, 16, 24, 32, 64 and 125 ms were used (125 ms producing sinusoidal amplitude modulation at 4 Hz). Stimuli were 240 seconds in duration and responses were collected on a 248 channel whole-head MEG scanner. The frequency domain steady-state response was analysed from each condition in 14 participants, and results confirmed that the response to sinusoidal amplitude modulation was significantly lower than to modulations more representative of those found in speech signals. This suggests that non-sinusoidal stimuli may be more effective when investigating these auditory mechanisms.