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## Frequency modulated harmonics induces informational masking of Chinese speech

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Informational masking (IM) occurs when target speech is co-presented with competing speech. It is important to know what acoustic characteristics of a speech masker are essential to induce IM. This study investigated whether frequency modulation (FM) of speech is associated with IM. Nonsense Chinese Mandarin sentences were spoken by a young female as target stimuli and maskers were tone harmonics whose fundamental frequency (F0) was modulated sinusoidally and number of harmonic streams was varied. The magnitude of IM was evaluated by measuring the precedence-induced releasing effect of perceived spatial separation on target speech. The results show that the releasing effect reached the highest level when F0 became 252 Hz, which was the mean pitch of target speech. In addition, the releasing effect was significantly higher when the masker contained two harmonic streams than when one stream. These results suggest that because frequency-modulated harmonics can be used to inducing IM of speech, the FM component of speech is an important acoustic factor underlying IM. [Supported by the NSFC 60435010; 60535030; 60605016; 30670704]