



Pitch perception of concurrent high-frequency complex tones

Daniel Guest, Andrew Oxenham

University of Minnesota, Department of Psychology, Auditory Perception and Cognition Lab

Introduction

- Accurate pitch perception is possible for harmonic complex tones (HCTs) even when all components are beyond putative limits of phase locking [3, 2]
- Accurate pitch perception is possible for target HCTs presented concurrently with spectrally overlapping masker HCTs [1, 4, 6, 5]

Bibliography

- [1] Robert P. Carlyon. “Encoding the fundamental frequency of a complex tone in the presence of a spectrally overlapping masker”. In: *The Journal of the Acoustical Society of America* 99.1 (1996), pp. 517–524. DOI: 10.1121/1.41510.
- [2] Hedwig E. Gockel and Robert P. Carlyon. “Detection of mistuning in harmonic complex tones at high frequencies”. In: *Acta Acustica* 104.5 (2018), pp. 766–769. DOI: 10.3813/AAA.919219.
- [3] Bonnie K. Lau, Anahita H. Mehta, and Andrew J. Oxenham. “Super-optimal perceptual integration suggests a place-based representation of pitch at high frequencies”. In: *The Journal of Neuroscience* (2017). DOI: 10.1523/JNEUROSCI.1507-17.2017.
- [4] Christophe Micheyl, Michael V. Keebler, and Andrew J. Oxenham. “Pitch perception for mixtures of spectrally overlapping harmonic complex tones”. In: *The Journal of the Acoustical Society of America* 128.1 (2010), pp. 257–269. DOI: 10.1121/1.3372751.
- [5] Christophe Micheyl et al. “Influence of musical and psychoacoustical training on pitch discrimination”. In: *Hearing Research* 219 (2006), pp. 36–47. DOI: 10.1016/j.heares.2006.05.004.
- [6] Jian Wang et al. “Pitch perception of concurrent harmonic tones with overlapping spectra”. In: *The Journal of the Acoustical Society of America* 132.1 (2012), pp. 339–356.