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How does the mammalian brain code for binaural information?

Abstract:

In the first half of this talk, I will summarize new physiological results which contradict established models of binaural hearing, namely (1) the π -limited range of encoded interaural time difference, ITD, (2) a correlation between ipsilateral inhibition and best ITD and (3) a frequency dependent non-linear mapping of IPD which reflects the limited range of ITDs occurring in free field. During the second part, I will outline a new concept for binaural models which incorporates these new results, and will propose a new illustrative format in which to present the triplet of binaural parameters: interaural phase difference, interaural intensity difference, and interaural coherence (redefined).