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**Are interaural time and level cues processed by separate or  
integrated networks in the human auditory cortex?**

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Listeners use two cues to localise the position of a sound source in the horizontal plane: interaural time differences (ITDs) and interaural level differences (ILDs). It is thought that these two cues are encoded separately at the level of the brainstem, but are likely to be combined at higher levels in order to produce a representation of sound azimuth. In the current study, we used electro-encephalography (EEG) to investigate whether the cortical representation of a stimulus containing both ITDs and ILDs reflects separate processing of ITDs and ILDs or a combined code for perceived sound location. Stimuli were presented over headphones using a continuous stimulation paradigm; a diotic control sound was presented for 1.5 seconds followed immediately by a dichotic test sound for 250 milliseconds. Evoked responses were recorded for test stimuli containing an ITD only, an ILD only, or both an ITD and an ILD indicating either the same or opposite source azimuths. When the two cues were in opposition, the stimuli were perceived as central and were indistinguishable from the diotic control sound. However, they still elicited a strong cortical response. This suggests that ITDs and ILDs are encoded separately in the auditory cortex.