?   Questions: "Loudspeaker Signals and Ear Signals" - English
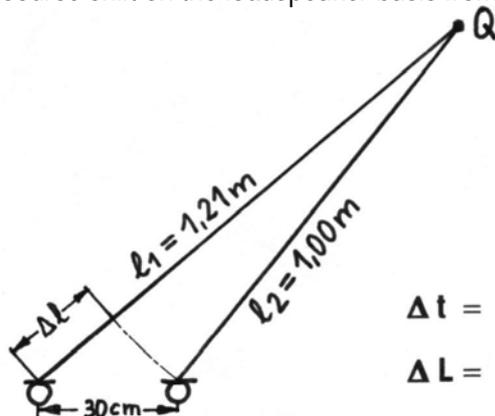
1. A sound source is to find at point Q which sends his sound to the microphone system as AB time-of-arrival stereophony.

a) Which time difference Δt do you find at the microphones?

b) Which level difference ΔL do you find at the microphones? **c)** What is the percentage of the phantom source shift on the loudspeaker basis from the center to a side?

a) $\Delta t =$

b) $\Delta L =$

c)

$\Delta t =$

$\Delta L =$

2. What is the difference between **a)** an AB main microphone, **b)** an AB adding microphone and **c)** an AB room microphone for a large orchestra recording? Tell the particular microphone spacing a.

a)

b)

c)

2. What was the name of the scientist, who showed with his "Duplex-Theory", that for directional hearing the two values of ITD (Interaural Time Differenz) and ILD (Interaural Level Difference) are necessary at the ear drums?

3. Which low frequencies do the human hearing predominatly need for the directional localization?

4. Which high frequencies do the human hearing predominatly need for the directional localization?

5. The value for the maximum time difference of the ear signals (ITD) was found to be around 0.63 ms (630 µs). How much is the calculated effective ear spacing (ear distance) at 90° sound incidence? Tell the formula. (Speed of sound c = 343 m/s at 20°C.)

6. Do we have to use shielded speaker cables at the connection of a power amplifier and a loudspeaker? Please, tell the reason with the answer.

Answers to this questions: "Loudspeaker Signals and Ear Signals" - English
http://www.sengpielaudio.com/LoudspeakerAndEarSignalsEnglishAnswers.pdf