

The human ear can discriminate changes in sound intensity levels/sound pressure levels/loudnesses of $JND = \Delta L = |L_1 - L_2| \sim 1/2 \text{ dB}$; Our ability to do so also depends on frequency and sound pressure level/loudness:

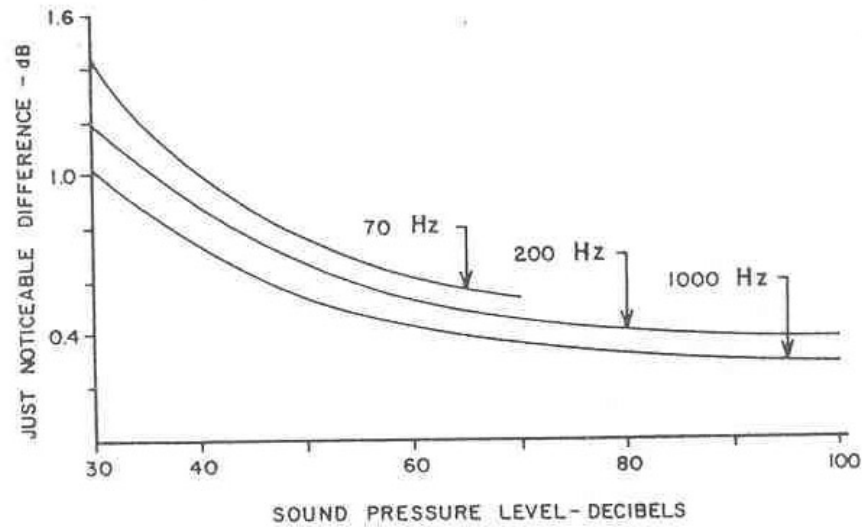


FIG. 2. Just noticeable difference in sound pressure level for three frequencies.

A $JND \sim 1/2 \text{ dB}$ change in sound intensity level corresponds to a fractional change in sound intensity of $\Delta I / I \sim 12\%$. Thus, due to the \sim logarithmic response of the human ear, it is not terribly sensitive to changes in the loudness of sounds.