

SSY 150, lecture-2 (speech compression) quiz questions, 2020-03-26

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1. Which of the speech compression methods below are/is model-based methods?
☒ LPC ☒ CELP ☐ Subband filters ☐ damped sinusoids
2. For a clean speech signal (without background noise), how many **spectral peaks** are adequate to characterize the speech signal?
☐ 2 ☒ 3 ☒ 4 ☐ 5 ☐ other numbers (specify)
3. For the above spectral peaks you chose, what is the **model order p** for the LPC model?
☐ 3 ☐ 4 ☐ 5 ☐ 6 ☒ Others (**$p=10$**)
4. Which speech compression method below may generate, in general, better synthetic speech quality?
☐ LPC ☒ CELP ☐ Subband-based ☐ Others (specify a name)
5. Which speech compression method below may obtain the highest compression rate?
☐ LPC ☐ CELP ☒ Subband-based ☐ Others (specify a name)
6. Due to the masking effect of human auditory system, weak frequency components are masked (inaudible) by a neighboring strong tone within the following frequency range:
☐ 1 KHz ☐ 500 Hz ☐ one bark scale ☒ one critical band ☐ Others (specify)
7. Are speech /audio signals sensitive to phase changes?
☐ yes ☒ no
8. For designing an objective speech quality measure, the best choice is to choose a criterion in:
☐ time domain ☐ frequency domain ☒ bark frequency domain ☐ others (specify)
9. Speech/audio perception in human auditory systems can be described by cochlear filters, whose frequency bandwidth is:
☐ equal bandwidth ☒ logarithmic bandwidth ☐ Octave bandwidth ☐ Others (specify)
10. Does MP3 provide the best compression/coding method for music? Chose one method below you think is the best for compression/encoding music:
☐ MP3 ☐ AAC ☒ MP4 ☐ Others (specify)

Thank for participating the quiz, hope it is fun to you !