

## SSY 150, lecture-3 (image compression) quiz #3, 2020-04-02

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1. Is 2D-DCT transform a model-based method?

☐ yes ☒ no

2. Is 2D wavelet transform a model-based method?

☐ yes ☒ no

3. How compression of 2D images is achieved?

☒ DCT forward + inverse transform ☒ wavelet forward+ inverse transform  
☐ Remove DC coefficient ☒ Remove small DCT coefficients ☐ Others (specify)

4. For a 4x4 2D DCT transform, the number of basis images is:

☐ 2 ☐ 4 ☐ 8 ☐ 12 ☒ 16 ☐ 32 ☐ Others (specify)

5. For selecting the "best" transformation for image compression, what should be the criterion ?

☒ transform independent of data ☒ orthogonal basis images ☒ energy compaction  
☐ Others (specify)

6. Let a 1D subband filterbank contain 2 bands (low and highpass bands).

For the *corresponding* 2D subband filterbank, the number of subbands should be:

☐ 1 ☐ 2 ☒ 4 ☐ 8 ☐ Others (specify)

7. Is human visual system sensitive to the phase change in images?

☒ yes ☐ no

8. For comparing image quality, chose one of the following objective quality measures that you think is the best choice:

☐ MMAE ☐ MMSE ☒ PSNR ☒ Mean SSIM ☐ others (specify)

9. Does human visual system have the same sensitivity to different frequency bands?

☐ yes ☐ less sensitive to low frequency bands  
☒ less sensitive to high frequency bands ☐ Others (specify)

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