

Sensing, Computing, Actuating

Lecture 13 - Displays

This instruction exercise consists of three questions that show example questions related to the lecture on displays. In preparation for the exam you should of course not only study these questions, but also the examples shown on the lecture slides.

Exercise 1: Displays

- (a) You need to select a display for an application in a dark environment. You can choose between a transmissive or a reflective matrix display which display do you choose? (Explain your answer)
- (b) To build a display that can show all possible colors it is not necessary that this display can produce all wavelengths. Explain why the display can produce all colors without the ability to produce all wavelengths.
- (c) Electromagnetic radiation with a wavelength between 400nm and 700nm with sufficient strength can be seen by our eyes as light. Light with a specific wavelength creates a specific color impression, but the reverse is not true, a specific color impression does not tell us which wavelength this light has. Explain why this is the case.
- (d) Explain how spatial color synthesis works.
- (e) LCD is currently the most dominant display. Why are moving objects often not sharp on an LCD?
- (f) Does a scanning display show motion blur? (Explain your answer)