

The workshop: Experiments with liquid crystals

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Apstrakt. In the workshop on experiments with liquid crystals, a set of basic, but crucial experiments will be shown. The red line of these experiments is “How colours are formed on the liquid crystal display” or shortly “The functioning of the LCD”. Participants will be able to perform most of the experiments in person, some will be shown as demonstrations.

Experiments in the workshop will focus on:

- a) Experiments that introduce the function of a liquid crystals display.
 - a. Structure of the colour on the screen
 - b. Structure of the pixel
 - c. Colour math and numbers defining colours
- b) Accompanying experiments that illustrate phenomena typical for liquid crystals but use other easily accessible materials.
 - a. Anisotropy as a concept
 - b. Effects of polarizers
 - c. Isotropic and anisotropic materials and propagation of light
- c) Experiments that show basic properties of liquid crystals.
 - a. The liquid crystal phase
 - b. How to make a cell and the liquid crystal anisotropy
 - c. Double refraction in a wedge cell
 - d. The model of the pixel – the switchable cell

Participants are asked to bring tablets and/or personal computers. For the group of four one tablet and one personal computer is needed, USB microscope and other equipment will be available.