



## Predavanje

# Switchable liquid crystal cells: from field sequential color displays to E-paper

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The response time of liquid crystal displays is still inferior to the existent competing technologies, such as plasma display panels (PDP) or cathode ray tubes (CRT). The target LC cell response time for a field sequential color (FSC) displays should be less than 1 ms (240 Hz frame frequency) to provide a high resolution, low power consumption and extended color gamut liquid crystal displays (LCD). One of the candidate for fast switching LC materials is a blue phase. However, these materials suffer a narrow temperature range and too high applied voltage and power consumption. Fast switching ferroelectric liquid crystal (FLC) displays (FLCD) is a good candidate for the new generation of field sequential color (FSC) LCD, which proved to be better in response time, than usually used nematic LC.

Optical rewritable technology (ORW) is a method of azo-dye photoalignment with reversible in-plane aligning direction reorientation, i.e. rotation perpendicular to the polarization of an incident light. The photoaligned optically rewritable (ORW) liquid crystal displays (LCD) is capable to write, store and rewrite again the information on a glass or flexible carrier. The possible but not limiting applications of the new optically rewritable (ORW) liquid crystal displays (e-paper) based on photoaligning are light printable rewritable paper, labels and plastic card displays, as well as rewritable paper for security applications.

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**V l j u d n o v a b l j e n i !**