

## **The analysis of the electrooptical performance of OALFC homogeneous structures.**

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Due to their unique electrooptical properties, the orthoconic antiferroelectric smectic liquid crystalline (OAFLC) structures offer potentially less complicated solutions for the display applications. By using the cell with homogeneous orientation of the OAFLC molecules (HO-OAFLC) on the boundary surfaces the optically uniaxial and optically negative medium with the optical axis perpendicular to the glass substrates is usually formed regardless the uniform orientation of the smectic layers normal. Such structures can be called 'unoriented' and may be obtained within cells with no rubbing applied on the boundary surfaces. This medium, at the zero electric field applied does not affect a light beam travelling along the optical axis. The application of the electric field to the HO-OAFLC induces the planar orientation of the AOFLC medium, what affects the light travelling along the normal to the plane of the AOFLC slab. The electrooptical performance of HO-OAFLC upon varying boundary conditions is presented for the polarizer-free transient light scattering mode (TSM) as well as for the typical cell operating in birefractive set-up. The results are presented and discussed in the context of the unconventional applications of OALFC for display and others applications.