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Simulation of electrically controlled nematic liquid crystal Rochon prism

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Abstract:

Operation of an electrically controlled beam steering device based on Rochon prism made by use of nematic liquid crystal is modelled numerically. Deflection angles and angular distribution of light intensity in the deflected beam are calculated. Dynamics of the device is studied. Advantage of application of dual frequency nematic liquid crystal is demonstrated. Role of flexoelectric properties of the nematic is analyzed.