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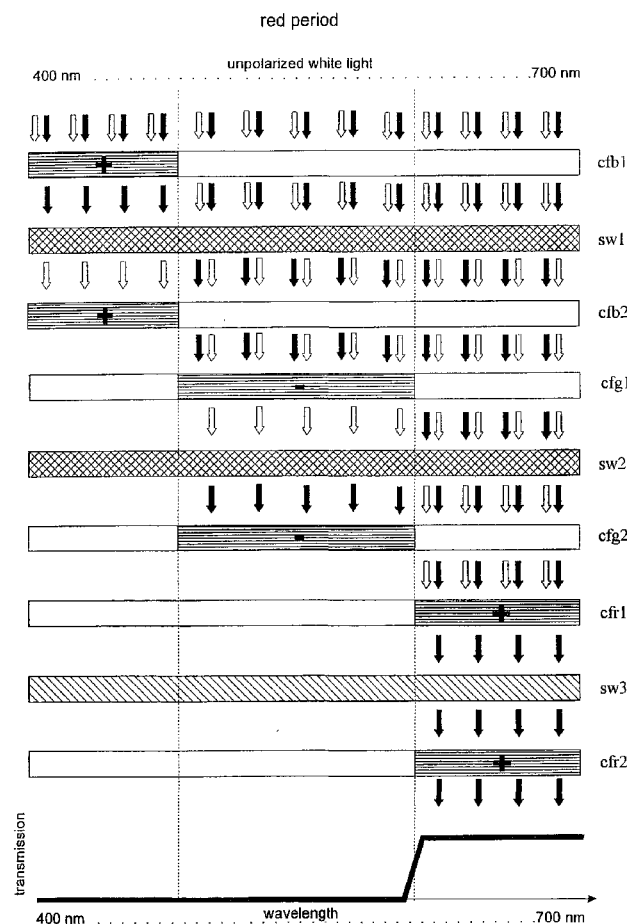
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(54) Title: SWITCHABLE COLOR FILTER



(57) Abstract: The liquid crystal switchable color filter switches between three color bands and is preferably used for time-sequential color devices, as for example projection devices, direct view displays and video cameras. The color filter employs circularly polarizing selective reflection bands of at least four cholesteric filters (cfb1 cfr2) together with three liquid crystal switches (sw1, sw2, sw3) and related retarder layers. The handedness of the second cholesteric filter (cfg1) is equal to the handedness of the third cholesteric filter (cfg2) and opposite to the handedness of the first and fourth cholesteric filter (cfb2, cfr1), and for the blocking state of a color band the optic axis of the corresponding liquid crystal switch is parallel or perpendicular to the polarization direction. This concept leads to an improved, excellent color saturation and requires less stringent production tolerances than in the prior art. Moreover, it advantageously allows overlapping color transmission bands thus improving the light efficiency.



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