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ABSTRACT OF THE DISCLOSURE
LIGHT MODULATOR USING A LIQUID CRYSTAL THICK CELL

In a liquid crystal thick cell light modulator using ferroelectric liquid crystal, a series of voltage pulses with an asymmetrical duty ratio (that is, duty ratio of 55-85%) is applied between a pair of electrode plates containing the ferroelectric liquid crystal. In another liquid crystal thick cell light modulator using ferroelectric liquid crystal, a DC bias voltage is added to the voltage pulses, where the magnitude of the DC bias voltage is 20-50% of the half amplitude of the voltage pulses. In still another liquid crystal thick cell light modulator, the gap length between the electrode plates is larger than 50 μm , and the helical pitch in smectic C phase of the ferroelectric liquid crystal is 0.7 to 0.95 times the gap length.

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