

ABSTRACT

REFLECTIVE ACTIVE MATRIX LIQUID CRYSTAL DISPLAYS WITH MIXED TWISTED NEMATIC AND BIREFRINGENT MODES

A generalized mixed twisted nematic / birefringent effect mode is presented for reflective liquid crystal displays with only one polarizer. This new MTB mode encompasses all previously published reflective nematic liquid crystal display modes and is clearly shown on the parameter space diagrams. The invention of how to obtain operating conditions of this generalized mixed mode display is discussed. For any given angle between the polarizer and the input director of the liquid crystal cell, a unique range of values of the twist angle and the retardation $d\Delta n$ for efficient reflection and low dispersion is defined.

Fig. 1