

ABSTRACT OF THE DISCLOSURE

**TITLE OF INVENTION: METHOD AND APPARATUS FOR MEASURING
THICKNESS OF BIREFRINGENCE LAYER**

A liquid crystal layer 3 is set between two polarizers 2, 6 in parallel Nicol or in crossed Nicol, and a phase plate 4 is set between the two polarizers so that the transmission direction of the first polarizer agrees with the optical axis. Then, a rotation angle at which optical intensity transmitting the second polarizer has an extreme value to be determined, and the thickness of the birefringence layer is calculated according to the rotation angle of the phase plate 4. In a different method, a half-wave plate is used. First, the liquid crystal layer is set at a position where an optical intensity of the transmission light has an extreme value, and the half-wave plate provided between the two polarizers is set so that a transmission direction of the first polarizer agrees with the optical axis. Then, a rotation angle of the phase plate is determined at which an optical intensity of light transmitting the second polarizer has an extreme value. Then, the thickness is calculated according to the rotation angle of the half-wave plate. Thus, the thickness is measured in a short time even for a liquid crystal that does not have a twist angle of 90° or on which rubbing direction is not known.

Figure 2.

This Sheet Has Been Replaced

