

SUMMARY

Dilatometric properties of two nematic liquid crystals PAA, PPAB and their mixtures have been investigated by using the Anton Paar density meter. It has been found that the density of PAA is greater than that of PPAB. In the nematic and isotropic phases of all compositions, the density is linearly dependent on temperature except in the region 2°C below the nematic-isotropic transition. Its transition is of first order because there exists a sudden jump of densities at this region.

The relative density change at the nematic-isotropic transition is about 0.25 - 0.40 %. Pretransitional effects in the density occurred only on the nematic side.

The density data have been used to determine the values of the expansion coefficient and the critical point exponent. The values of the thermal expansion coefficient in the nematic phase are higher than those in the isotropic phase for all samples. In pure components the critical point exponent values are the same in both nematic and isotropic phases whereas they are different in the mixtures.

BIOGRAPHY

Name: KANCHIT PONGTHANA-ANANTA

Date of Birth: October 12, 1952

Place of Birth: Bangkok, Thailand

Institutions attended:

Suwannaramvidhayakom School, Bangkok

March, 1972....Certificate of Mathayom Suksa V

Chulalongkorn University, Bangkok

Faculty of Science, Department of Physics,

April, 1976....Bachelor of Science in Physics (B.Sc.)