

INTISARI

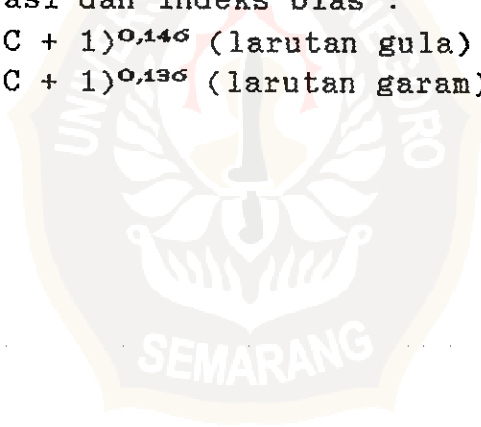
Indeks bias cairan dipengaruhi oleh konsentrasi cairan. Semakin tinggi konsentrasi cairan semakin tinggi pula indeks bias cairan.

Dalam penelitian ini telah diselidiki pengaruh sinar laser He-Ne 5 mW terhadap indeks bias yang dilewatinya dengan metode interferometri, yaitu memanfaatkan hasil interferensi dari dua berkas sinar laser He-Ne yang salah satunya dilewatkan pada cairan. cairan yang digunakan adalah larutan gula dan garam. Telah dilakukan pula pengukuran panjang gelombang laser He-Ne, pengaruh perubahan konsentrasi terhadap pola interferensi dan mencoba membuat rumus empiris yang menghubungkan antara indeks bias dengan konsentrasi cairan.

Dari hasil penelitian diketahui bahwa sinar laser He-Ne 5 mW tidak mengubah indeks bias cairan yang dilewatinya dan perubahan konsentrasi linier terhadap perubahan perubahan pola interferensi. Dari hasil penelitian ini didapatkan juga rumus yang menghubungkan antara konsentrasi dan indeks bias :

$$n = 1,33 (C + 1)^{0,146} \text{ (larutan gula)}$$

$$n = 1,33 (C + 1)^{0,136} \text{ (larutan garam)}$$



ABSTRACT

The refractive index of liquid is influenced by liquid concentration. Liquid concentration increases with increasing refractive index of liquid.

The influence of Laser He-Ne 5 mW ray in refractive index that passed through the laser ray with interferometri method has been studied, which use result of interference from two laser ray, one of them was passed throught on liquid, where the liquid is the salt solution and sugar solution. Wave length He-Ne measurements, influence of the change in the concentration to the pattern of interference and tried to make empirical formula that connect between refractive index with liquid concentration have been done too.

The result of research are known the laser He-Ne 5 mW ray does not change refractive index of liquid that passed through the laser and the pattern of interference change linierly by the change in concentration. The result of research provide formula that connect between concentration and refractive index, can be expressed in the form :

$$n = 1,33 (C + 1)^{0,146} \quad (\text{sugar solution})$$

$$n = 1,33 (C + 1)^{0,136} \quad (\text{salt solution})$$

