

ABSTRACT

ANALYSIS OF THE INTERFERENCE PATTERN IN INTERFEROMETER MICHELSON TO DETERMINE THE REFRACTIVE INDEX OF TRANSPARENT MATERIALS BASED IMAGE PROCESSING

By

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Abstract. Interferometer Michelson has been designed to measure the refractive index of a transparent material with analysis of the interference pattern. Transparent material used in this study are glass and acrylic. Refractive index of transparent materials can be determined by analyzing the interference pattern is measured radius of the center of the interference pattern before and after the insertion of material. Interference pattern analysis performed using Delphi 7 programming language so that the measurement of refractive index of transparent materials can be displayed directly on programming with completing calculation parameters. The result of this study were obtained value average refractive index of glass with a thickness of 2 mm and 3 mm is 1,06375 and 1,09650 whereas value average refractive index of acrylic with a thickness of 2 mm and 3 mm is 1,24707 and 1,30917. Acrylic material has a refractive index greater than that of the glass.

Keyword. *Interference Pattern, Interferometer Michelson, Refractive Index, Transparent Material*