

ABSTRACT

In the course of the optical communication system there are many students who lack understanding related to the concept of light propagation in optical fiber as well as calculation of light angles contained in optical fibre. In order to improve the learning quality of this course, more interactive learning media is needed.

In this final project, the learning application was created in the academic system of the optical Communication Systems (SKO). This application will be used as a learning media to help students for better understand the concept of light propagation system in optical fiber as well as the calculation of the Acceptance Angle. In addition there will also be calculations from a critical angle, and Numerical Aperture (NA).

Based on the testing of this final project that uses different fibre optic materials, produces a PC (Polycarbonate) generating a Critical Angle value of $55,578^\circ$ and a Numerical Aperture value of 0.894 as well as Acceptance Angle value of $63,413^\circ$. CYTOP (Amorphous Fluorinated Polymer) generates a Critical Angle value of $82,051^\circ$ and a Numerical Aperture value of 0.187 as well as Acceptance Angle value of $10,784^\circ$. With the rate of calculation errors in applications of 0.17%.

Keywords: Fiber optics, Angle, Light Propagation.