

## **ABSTRACT**

Underwater Visible Light Communication (UVLC) is optical communication system which utilize modulated visible light for transmitting data with water as a media transmission. Sea water as the media transmission have loss propagation that impact by the beam extinction coefficients. Those matter, sustain the system have loss propagation bigger than VLC system. So, UVLC need optical concentrator which will transmitted to the photodetector that have a better quality although with limited quantity. This experiment will analysis about the performance of the photodetector Positive Intrinsic Negative Photodetector (PIN).

In this Final Project use two scenarios that will do. First scenario analysis about the performance of UVLC system using PIN. Second scenario analysis about the performance of UVLC system using PIN and optical concentrator. The parameters of this Final Project are distance, received power, Signal to Noise Ratio (SNR) and Bit Error Rate (BER).

From the simulation result, adding an optical concentrator give 60% increases towards the received power that makes SNR and BER are better than without an optical concentrator and the value of PPM level affects the value of BER, more and more the PPM level BER will optimum in every depths.

***Keywords:*** *Underwater Visible Light Communication, L-PPM, PIN, Bit Error Rate, Signal to Noise Ratio, Received Power.*