ABSTRACT

Optical waveguide has developed as long as the escalation of integrated optics research. Coupler is one of optical element that has function to distribute light waves from one waveguide to the other one. The evanescent tail of the light wave in one waveguide extends to a neighboring waveguides and induces an electric polarization. The polarization generates a light waves in the second waveguide, which also couples back to the first waveguides.

In the final project, will study to analyze the coupler characteristic in optical waveguide to waveguide connection. The difference between symmetric and asymmetric coupler is in the power distribution when coupling is occurred. The different of constant propagation ($\Delta\beta$) between both waveguide cause complete coupling does not occurred at the asymmetric coupler. The minimum length needed to get the complete coupling is depend on the coefficient coupling and the separation length between both waveguides. The three identical waveguides coupler with input PG2 on waveguide G.652 produce shorter coupling length. Analyze the analytic coupler can be done using coupled mode theory to get the accurate result.