ABSTRACT

On transmission of optical communication there are some parameters that mepengaruhi resource that will be received at the receiver (the customer), such as the length of the optical fiber, power, connection, connectors and others. In the measurement of the parameters used optical fiber measurement tool a i.e. OTDR (optical Time Domain reflectometer) used to evaluate a fiber optic transmission in time domain.

In this final project will be created a simulator using OTDR software matlab Simulator was created to help the learning of optical communication systems in the Faculty of applied science. This Simulator can simulate measurements on optical communications particularly on the transmission link FTTH (Fiber To The Home), by including all the value of the variable (distance, number of connector, number of connections, power output of the optical source, etc.). the value of the variable to be included or can be assumed based on data that already exists. From the value of the variable is entered then obtained a large damping and also the influence of a variable against the value of the damping with the variables vary, moreover on the graph of the output can also be seen the location of the connection, the location of the connector, the distance of transmission, revlective even, non-reflective event, etc.

The accuracy test results is performed manually and of simulator for the measurement of the attenuation (Attenuation, attenuation, Insertion Loss, connection, connectors, damping damping total, and total power to the other end of the optical fiber), obtained from the calculation accuracy Attenuasi of 98.1118%, the insertion loss of 98.1783, the connection is 100% attenuation, attenuation connector 100% attenuation, a total of 99.9326% and 99.8839% of Pout.

Key words: Simulator, OTDR, FTTH.