

ABSTRACT

In the system performance measurement only known that the system has affected by attenuation. However, that measurement can not give detail information about attenuation that influenced system performance. One of attenuation happened inside the system is bending.

This Final Assignment investigate several method to evaluate the bending influence to output power. Some method that can be used are theoretical by calculating the number of modus that flow in the optical fiber and geometrical approach, practical approach by measuring used the optical powermeter, and FDTD (Finite Difference Time Domain) method as mathematical approach. And then, the results from these methods are compared, so the loss power because of bending can be known.

The loss power because the bending in optical fiber, where some light is creeping outside toward the cladding. The loss of power for the smallest bending radius (0.125 cm) is 4.23 % as theoretical approach, 47.39 % as practical approach, and 31.85 % as FDTD application result. From comparable the three results above, the percentage of loss power for bending radius 0.125 cm is approximately 47.39 %.

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