Fiber optics - lab report example

Science, Physics

Fiber optics

Fiber optics Fiber optics is referred to as the transmission of light through some long rods of fiber which are either glass or plastic. This light travels by internal reflection. The reason is that the medium of the core reflects more than the material surrounding it. As a result, light is continually reflected back into the core as it continues travelling down this fiber. This enables the fiber optic cables to transmit voice, images and even other forms of data in a very high speed that is almost the speed of light. Thus, a fiber optic cable is made up of thin strands of glass or even plastic. Each of the strands is a tenth less as thick as the strand of a human hair and it is capable of carrying approximated ten million calls. The cables are able to carry information from one point to another using the optical technology.

The technology has been applied in many companies of telecommunications to transmit various telephone signals, television signals of cables and various communications in the internet. The fiber optics is more advantageous compared to existing copper wire that results from lower level of attenuation and also interference. This occurs in various long distances and in high demand applications. However, there have been various challenges resulting from development of infrastructure in cities making it time consuming and expensive to install the fiber optics (Méndez and Morse 165). As a result, fiber optics has been primarily installed in long distances where it is possible to maximize their full capacity of transmission. This has resulted into a decreased price of installing the fiber optic communication.

Works Cited

Méndez, Alexis and T F Morse. Specialty optical fibers handbook. Amsterdam, Boston: John Wiley & Sons, 2007.