Title:
Fiber Optics - Bringing Us High Speed Internet

Word Count:
368

Summary:
Generally, optics is a branch of physics (science) that deals with the nature, behavior and properties of light. Optics is also the study of interaction of light with other matter. It is also regarded as the sub-field of electromagnetism because scientifically, light is an electromagnetic wave. Applied optical sciences are often called optical engineering. Classical optics and modern optics are the two major categories of optics. Fiber optics is one of the main branches of op...

Keywords:
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Article Body:
Generally, optics is a branch of physics (science) that deals with the nature, behavior and properties of light. Optics is also the study of interaction of light with other matter. It is also regarded as the sub-field of electromagnetism because scientifically, light is an electromagnetic wave. Applied optical sciences are often called optical engineering. Classical optics and modern optics are the two major categories of optics. Fiber optics is one of the main branches of optics that is very popular these days.

The transmittance of data through fiber optics is based on the principle of total internal refraction. The data is transmitted through the medium of light. This may sound weird but you will be surprised to know that more than half of the contemporary technology is based on the concept and functions of fiber optics. Telephone, radio and television are the most common gadgets that excessively employ this technology.

Unlike the copper cables, there are no chances of getting electrical shocks in case of optical fibers. Glass has replaced copper through the course of time. Instead of copper wire, a bundle of glass threads (in a cable form) is used to transmit signals and data in modulated form. It is true that fiber optics has not replaced the traditional copper wires completely because glass threads are very expensive. They cannot be used as domestic cables used to transfer electricity and other signals.

Optical fibers are more resistant towards the external interference. They are lighter and thinner. Therefore, they transmit data in digital form instead of analogue form. Fiber optics has thus resulted in conversion of every electronic medium signal transmittance in digital form.

Apart from telecommunications, fiber optics has been a blessing in the medical and industrial applications as well. In the field of medicine, fiber optics is used in many appliances like endoscope and other high-tech treatments. It is assumed that fiber optics is all set to revolutionize the medical technologies and bring great advancement in this field. The organized and high-tech traffic control systems and automated tollbooths are the highly beneficial application of fiber optics.

The Internet and fiber optics have become inseparable because the optical fibers facilitate high data carrying capacity and high bandwidth.