**Abstract:**

Over the last two decades free-space optical communication (FSO) has become more and more interesting as an adjunct or alternative to radio frequency communication. Free-space optical (FSO) communication links are most susceptible to a tremendous amount of variability and offer a real challenge for efficient, robust system design. One method of transmitting information from one place to another by sending pulses of light through an optical fiber is Fiber-optic communication, FSO communication systems will provide a large dynamic range of performance through most cases .It is a line-of-sight (LOS) technology that transmits a modulated beam of visible or infrared light through the atmosphere for broadband communications. In a way similar to fiber optical communications, free space optics uses a light emitting diode (LED) or laser (light amplification by stimulated emission of radiation) as a point source for data transmission. However, in free space optics, an energy beam is collimated and transmitted through space rather than being guided through an optical cable. These beams of light, operating in the TeraHertz portion of the spectrum, are focused on a receiving lens connected to a high sensitivity receiver through an optical fiber. This paper provides a overview of the effective role of Free Space Optical (FSO) communications within next generation cellular networks. Main considerations is to increase the number of base stations, as well as the advanced topologies supported by next generation cellular networks, pave the way for a growing reliance upon FSO communications, with a view to support the high bandwidth applications offered to mobile users.

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