Abstract

Generally the light transmitted as a radiation in a certain velocity whose value depends on the type of the medium in which the transmission occurs, in fiber optics light transmits in the form of rays, and in order that the light be totally reflected, the incident angle should be greater than the critical angle so that continuous reflections would happen on the wall of the cladding inside the fiber optics. This depends on a physical phenomenon called the phenomenon of total internal reflection; the ray that enters the fiber with an angle less than the acceptance angle is reflected in an angle so that when the incident angle is change the exit angle will also be changed. When the incident angle is changed, a displacement will take place; this displacement affects the value of the exit angle, in such a case there will be a difference between the point of the incidence and the point of refraction, this difference will lead to a variance in the distance and the arrival time at the end point which is an indication of acceleration in the speed of light which will be discussed in this paper.

References

The Phenomenon of Total Internal Reflection and Acceleration of Light in Fiber Optics

- Bala Saraswathi, N. , Ravi Kumar, I. , Comp. Optical Communications, p. 8, 2000.
- Chatak, A. , Optics, Fiber optics 1: basic concepts and ray optics considerations, p. 12.
- An Introduction to Fiber Optic Technology, https://ts-dep.web.ch/dep/groups/el/sections/OF/intro/an_introduction_to_fiber_optic_t.htm
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Computer Science

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Keywords

Rays  Wavelengths  Acceleration  Fiber Optic  Total Internal Reflection

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