Abstract

In this paper the dispersion property of index guided photonic crystal fibers (PCFs) of silica material has been investigated. The modal analysis is done to obtain the complex effective refractive index for: (i) Hexagonal lattice with circular air holes and first ring having elliptical cells (ii) Rectangular lattice with circular air holes and first ring having elliptical cells. The dispersion
generated by both the configurations is finally compared in (iii) hexagonal and rectangular lattice with first ring elliptical air holes. A full-vector FDTD method with TE polarization is used to simulate and analyze the dispersion property.

**Reference**


**Index Terms**

- Computer Science
- Information Technology
- Photonic Crystal Fibers (PCFs)
- Total internal reflection (TIR)
- Effective Refractive index (neff)
- Chromatic Dispersion (D)
- Finite Difference Time Domain (FDTD)

**Key words**

- Photonic Crystal Fibers (PCFs)
- Total internal reflection (TIR)
- Effective
- Refractive index (neff)
- Chromatic Dispersion (D)
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