ABSTRACT

Optical fiber communication system allows transmission system which high capacity and velocity. In the other hand, this transmission process is depended on dispersion. Variation of methods had developed on designing optical fiber to reduce this effect. Thus, optimal transmission received, one of the methods is using designing Dispersion Flattened Fiber (DFF). Dispersion Flattened Fiber is modified optical fiber provide small dispersion at two or three different wavelength, and remain close to zero in between.

Design this Dispersion Flattened Fiber (DFF) done by design fiber with multi-cladding and using Single-Mode Step-Index fiber. Expectation on multi-cladding fiber is minimum dispersion surfaces on light propagation instead the fiber. Multi-cladding which is made in this design is triple-cladding fiber.

Manipulation in seven parameters consist of refractive index profile and geometry is doing by design optical fiber triple cladding. Dispersion Flattened Fiber triple clad Single Mode Step Index (SM/SI) is developed. The main purposes of this design is dispersion less than 1 (ps/nm.km) on the wavelength 1.31μm – 1.67μm.