

# Study of the Structure of Photonic Crystal Fiber with High Negative Dispersion Coefficient

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## Abstract

The optical fiber communication has been popular topics besides robot study nowadays. In the process of the Dense Wave-Length Division Multiplexing (DWDM) study, the dispersion compensate for the traditional optical fiber is difficult to solve for long distance transport information. It is hard to solve this problem by experimental study on photonic crystals with high negative dispersion structure. The advanced COMSOL Multiphysics® software for multiphysics coupling calculation is a good choice. The structural parameters are adjusted for the traditional hexagonal photonic crystal fiber and the negative dispersion coefficient is obtained as larger as possible. Then the structure with same spacing layers and ultra-high negative dispersion coefficient is designed. It is COMSOL Multiphysics® software that easily complete modeling, mesh subdivision, calculation and analysis. The result is the theory basis for DWDM.

## Reference

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## Figures used in the abstract

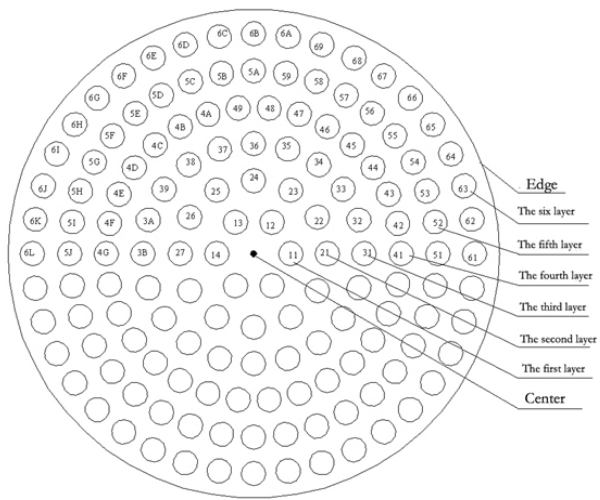


Figure 1: Figure 1 The cross section of the photonic crystal fiber

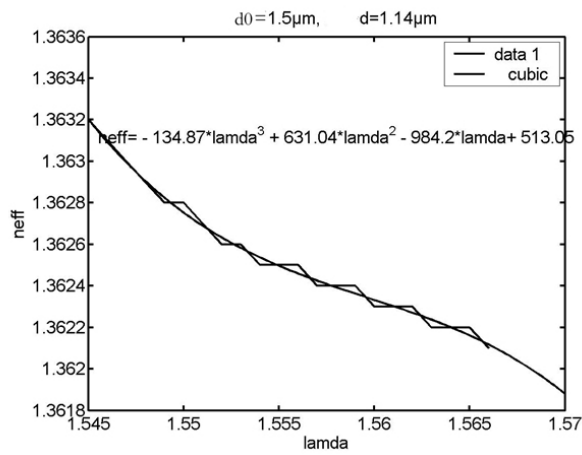


Figure 2: Figure 2 The fitting cubic curve of the effect refractive index