



SDI Review Form 1.6

Journal Name:	<u>British Journal of Applied Science & Technology</u>
Manuscript Number:	Ms_BJAST_31212
Title of the Manuscript:	Dispersion and Nonlinear Characteristics of a Doping Defected Core Spiral Photonic Crystal Fiber
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	English Language Editing Plagiarism Issue – parts of the manuscript should be rewritten Parts of manuscript matching with the following listed published articles. http://opticalengineering.spiedigitallibrary.org/article.aspx?articleid=1158196 http://ieeexplore.ieee.org/document/7488101/ http://ieeexplore.ieee.org/document/4404209/ http://www.scielo.br/scielo.php?script=sci_arttext&pid=S2179-10742013000100009&lng=en&nrm=iso&tlng=en	We have already rewritten the parts of manuscript matching Line 14 & 17-Photonic crystal fibers(PCFs), comprising of a central defected region circled with compound air-holes that run along the fiber distance end to end, are not possible to be formed in conventional optical fibers. It is because PCFs bear some unique features [1] which now a day are inviting sincere attentions from various concerned communities. Line 20 & 21- A number of interesting PCFs designs has been offered to get nearly-zero dispersion and ultra-flattened chromatic dispersion Line 37 & 40-A soft glass equiangular spiral PCF carries the potentials to be considered as pertinent for the supercontinuum generation (SCG) due to its higher nonlinearity [12] around $5250\text{W}^{-1}\text{km}^{-1}$ pumped at near infrared wavelength of 1064 nm. Line 145 & 159-Dispersion curve is illustrated through contour plot of electric field distribution over the dd-SPCF cross section shown in Fig.4. Material dispersion is the only factor to dominate the total dispersion at lower wavelength (750 nm) shown in Fig. 4(a) because at that time the field is fully confined in the core and interacts with the materials solely. The dispersion curve can not be manipulated by the change of core diameter prior to the first zero dispersion wavelengths (ZDW). As shown in Fig. 4(b), with the increase of wavelength, field starts to interact with the first ring of air holes and waveguide dispersion starts to increase simultaneously. Hence, material dispersion is nullified by waveguide dispersion to first ZDW. If wavelength increases more, material dispersion begins to dominate again and field distribution starts to interact with the upper portion of the first air hole ring and enter into the silica material between the two successive holes of the second ring. As a result, material dispersion dominates the whole process and



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		the increasing pattern of dispersion curves down into a flat portion. When the core size is smaller, nonlinear tends to be higher because of its small effective area. Afterwards, Group velocity dispersion curve moves slowly to normal dispersion region with the excessive reduction of the core size but it does not reach ZDW
Minor REVISION comments	Figure legends can be improved for some figures. This ensures clarity for readers.	We have already improved Figure legends – Fig. 5. Variation of dispersion versus wavelength as a function of air hole diameter, d Fig. 6. Variation of dispersion versus wavelength as a function of pitch, Λ Fig. 7. Variation of dispersion versus wavelength as a function of core side, a
Optional/General comments	While the research work is useful, the manuscript needs revision. Language editing and plagiarism issues to be rectified.	Our Proposed design does not match to the following link. Hence, I hope there is no practice of plagiarism here.