



SDI Review Form 1.6

Journal Name:	Physical Science International Journal
Manuscript Number:	Ms_PSIJ_47389
Title of the Manuscript:	Super-sech soliton dynamics in optical metamaterials with generally parabolic law of nonlinearity using Lagrangian Variational Method
Type of the Article	<i>Original Research Article</i>

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:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



SDI Review Form 1.6

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		
Minor REVISION comments	<p>Report on the manuscript</p> <p>Title: Super-sechsoliton dynamics in optical metamaterials with generally parabolic law of nonlinearity using Lagrangian Variational Method</p> <p>Physical Science International Journal</p> <p>Manuscript number: psij-47389</p> <p>The topic of this manuscript can be of interest for readers of this valuable Journal. I have not found (by internet) another approach for the Lagrangian Variational Method in optical metamaterials with generally parabolic law of nonlinearity. Calculations are laborious. I've rebuilt most of them and seem to be correct. Generally speaking, the manuscript is well written and organized. For these reasons I can recommend the acceptance of this paper.</p> <p>However, before that the Editor makes a decision, I suggest that the authors take into account the following major corrections:</p> <ol style="list-style-type: none"> 1. It is not specified whether equation (1.3) can be found in Farouton (2018). 2. Authors must specify a reference for the equation (1.4). 3. For me it is clear that NLSE is for non-linear Schrodinger equation, but is not specified anywhere. 4. Further details on obtaining the equations (3.2) and (3.3) are needed. It would seem that they are not correct. 5. From where the parameter values from the beginning of Section 4 have been taken? 6. A very great number of notions and results are "borrowed" from different already published paper. As such, I think the authors need to emphasize more clearly the contribution of the manuscript from a scientific point of view. 7. Some editing "glitches" need to be corrected. 8. Punctuations are used randomly. Insert comma or full stop after each and every equation accordingly. 9. References are not uniformly written. In some references the name of the journal is written in full and in others it is incorrect abbreviated. 10. I think, the authors must strengthen the References section with some articles that use the same techniques, to make the techniques used more plausible, for instance: The effect of a dipolar structure on the Holder stability in Green-Naghdi thermoelasticity, ContinMechThermodyn, 29(6), 1365-1374, 2017; Cesaro means in thermoelasticity of dipolar bodies, ActaMech, 122(1-4), 155-168, 1997 <p>If the authors take into account all these corrections, I recommend the acceptance of the manuscript for publication.</p>	<ol style="list-style-type: none"> 1- See, line above equation (1.3) 2- The equation (1.4) is the generalization of the equation (1.2) where authors introduced higher terms in the sum. 3- Instead of NLSE, read GNLSE (generalized nonlinear Schrodinger equation) 4- In (2.11) we have: $L = \int_{-\infty}^{+\infty} \left(\frac{i}{4} (q_2 q^* - q_2^* q) - \frac{a}{2} q_t ^2 \right) dt + \int_{-\infty}^{+\infty} \sum_{k=2}^n \frac{b_{k-1}}{2k} q ^{2k} dt.$ with: $L_1 = \int_{-\infty}^{+\infty} \left(\frac{i}{4} (q_2 q^* - q_2^* q) - \frac{a}{2} q_t ^2 \right) dt, \text{ and}$ While substituting (q = f) in (2.11) we obtain (3.2) and (3.3) 5- These different values have been chosen while being inspired by the values used in the article of [Veljkovic (2017)] and while taking into account every physical quantities. Furthermore, the physical quantities must have a meaning. 6- The previous works done by several authors the generalized nonlinear Schrodinger equation deal with the cubic, quintic, septic and nonic. Our work did generalization up to thirteen terms. As a consequence we appreciate the impact of the added term on pulse dynamics. 7- They are corrected in the manuscript. 8- Already done in the manuscript. 9- References are corrected. 10- References are corrected.
Optional/General comments		



[SDI Review Form 1.6](#)

PART 2:

	Reviewer's comment	Author's comment <i>(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)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	