



SDI Review Form 1.6

PART 1:

Journal Name:	Physical Review & Research International
Manuscript Number:	MS: 2012 PRRI 2773
Title of the Manuscript:	Application of Non-local Quantum Hydrodynamics to the Description of the Charged Density Waves in the Graphene Crystal Lattice.

General guideline for Peer Review process is available in this link:

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

- This form has total 9 parts. Kindly note that you should use all the parts of this review form.



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PART 2: 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)
Minor REVISION comments	The authors presented the motion of the charged particles through the graphene crystal lattice, finding that motion can be described in form of solitons. The authors use the mathematical modeling of the equations of motion, which are presented by hydrodynamic equations. The paper is well written, with clearly stated idea which transport processes in graphene occur. Paper is of scientific interest and I am glad to recommend this for publication after only some minor revisions.	
General comments	<p>Authors stated that the results of the mathematical modeling are realized with the help of Maple and they are correctly shown. But it would be good, in places where it is possible, to show shorter version of equations, with aim to stress the final formulas. It could be managed by applying any known assumptions to variables with the 'assume' command or to simplify the relation by 'simplify' command in Maple, or maybe with 'FullSimplify' in Mathematica, or something similar ...</p> <p>For Maple it is well known that it is mathematical software, but it should be clearly stated, when first time "Maple" appears, just put in the brackets some explanation, for instance: Maple (Software for mathematics, modeling and computing).</p> <p>Graphics are good and clearly show the results, but it would be good to enlarge the labels and numbers in all figures.</p>	The versions of Maple, which can be used, are indicated now in the text



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Specific comments: SECTION 1: Introduction. Preliminary remarks	- line 37: "Is known that graphene, a single-atom-thick sheet of graphite, ..." -> "It is known that graphene, a single-atom-thick sheet of graphite, ..."	Many thanks for your corrections. Of course English is not our mother tongue. Your corrections were introduced in the text. Concerning "grapheme" – it is result of the automatical grammar corrections.
SECTION 2: Generalized quantum hydrodynamic equations describing the soliton movement in the crystal lattice	- lines 105-106: "For our aims is sufficient in the following to suppose that the effective charge movement was created in grapheme lattice as result of an initial fluctuation." -> "For our aims it is sufficient in the following to suppose that the effective charge movement was created in graphene lattice as result of an initial fluctuation." - also, in lines 111, 169, 175, 299 instead of "grapheme" there should be "graphene" - lines 247-249: "Average on y the obtained system of quantum hydrodynamic equations taking into account that effective hydrodynamic velocity is directed along x axis". this sentence should be written more clear	Your remarks are taken into account.
SECTION 4: Results of the mathematical modeling without the external electric field.	- line 521: "Figure 41 demonstrate the ..." -> "Figure 41 demonstrates the ..."	Your remarks are taken into account.



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CONCLUSION	<p>- line 748: "The appearance in mathematics the soliton solutions is the rare and remarkable effect." -> "The appearance of the soliton solutions in mathematics is the rare and remarkable effect."</p> <p>-lines 750-752: "The realized here mathematical modeling CDW expansion support established in [1, 3] mechanism of the relay ("estafette") motion of the soliton' system ("lattice ion - electron") which is realizing by the absence of chemical bonds."</p> <p>unclear sentence, needs revision, better to separate in two or three simple sentences. Also, it should be added here that CDWs are investigated in the transport processes in the graphene crystal lattice.</p>	Your remarks are taken into account
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