



## SDI Review Form 1.6

### **PART 1:**

Journal Name:	<a href="#">Physical Review &amp; Research International</a>
Manuscript Number:	2013_PRRI_3663
Title of the Manuscript:	Characterization of Nanoinclusion in Nanocomposite

**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 7 parts. Kindly note that you should use all the parts of this review form.



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### **PART 2: Review Comments**

	<b>Reviewer's comment</b>	<b>Author's comment</b> <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>
<b><u>Compulsory</u></b> REVISION comments	<p>Line 119-123; It was attempted to maintain the same degree of refinement for all models to obtain consistent results. <b>Delete space</b> The mechanical properties of the a are considered to be isotropic. <b>-Ckeck this sentence.</b> Matrix properties for Young's 121 modulus and Poisson's ratio are 2.6 GPa and 0.3 respectively. For the nanofiber, the properties that are used 200 GPa for Young's modulus and and 0.3 Poisson's ratio. <b>The modulus of elasticity of the nanoinclusion considered as 1/100 of the 123 matrix while 0.3 is adopted for the Poisons' ratio. Any authentic reference or data?</b> Check the results cited in figs 5 and 6 for shear stresses and also correlate these values with longitudinal and transverse stresses. Cite more relevant references to the results and discssion section for validation of the FEA results.</p>	<p>1-Done, space is deleted.</p> <p>2- Done, "The mechanical properties of the nanofiber and the matrix are considered to be isotropic".</p> <p>3-Done, repeated "and" is deleted.</p> <p>4-Done, references added [46-49] for the nano-inclusion properties.</p> <p>5-Done, figures are separated and re-organized to elucidate the impact of the corner, horizontal and the vertical nanoinclusion separately and discussed briefly.</p>
<b><u>Minor</u></b> REVISION comments	<p>Two pairs of identical nanoinclusions located symmetrically around the fiber in addition to a nanocclusion at the corner of the nanofiber are shown in Fig 2. A tensile <b>load or stress</b> of 10 MPa is applied at the longitudinal direction of the RVE, whereas no lateral load is applied.</p>	<p>Done, "A tensile stress of.." is used.</p> <p>Note: Most of the references are cited with their corresponding doi.</p>



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<b><u>Optional/General</u></b> comments	<p>This paper studied the influenec of nano filler embedded in nanocomposite along side a nanofibe as objective. The analysis is done based on 2D, linear elastic finite element using ANSYS to explore the impact of the nanoinclusion. Valid assumptions were made in the analysis. The levels of the interfacial normal and shear stresses along the nanofiber are examined. Uniaxial tensile stress is the principal stress that applied on the nanocomposite is in the longitudinal direction. Implications of the nanoinclusion on the failure of the nanocomposite are studied as well. Finally, they concluded that nanoinclusion has a great influence on the increase in the levels of the interfacial contact stresses along the sides of nanofiber in nanocomposite, which is considered as one of the main reasons of the nanocomposite failure.</p> <p>This paper is carefully written and provides a worthwhile result. Because the applications are related to this study, and considering the fact that the results and data comfort the discussion, I recommend the article. But some minor appropriate corrections need to do.</p>	Thank you professor for the invaluable feedback.
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