



SDI Review Form 1.6

Journal Name:	Advances in Research
Manuscript Number:	2014_AIR_11625
Title of the Manuscript:	Heat transfer and solidification of molten iron in a pipe
Type of the Article	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:

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



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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	<p>1) The formulation of RSM model does not exist inside the manuscript. May the reviewer ask the author (s) to add the formulation? Some references which can be used for this purpose are as follows:</p> <ul style="list-style-type: none"> Numerical Investigation of Laminar and Turbulent Mixed Convection in a shallow Water-Filled Enclosure by various turbulence methods, Scientific Research and Essays, Vol. 6(22), pp. 4826-4838, October 2011. Numerical Modeling of Turbulence Mixed Convection Heat Transfer in Air Filled Enclosures by Finite Volume Method, International Journal of Multiphysics, Vol. 5(4), pp. 307-324, 2011. Investigation of turbulence mixed convection in air-filled enclosures. Journal of Chemical Engineering and Materials Science, Vol. 2(6), pp. 87-95, 2011. <p>2) Page 2, last sentence "...Currently it is well recognized that RSM simulate turbulence in a better way that two-equations models such as the k-ϵ model" needs at least a reference. Some references which can be used for this purpose are as follows:</p> <ul style="list-style-type: none"> Numerical Investigation of Laminar and Turbulent Mixed Convection in a shallow Water-Filled Enclosure by various turbulence methods, Scientific Research and Essays, Vol. 6(22), pp. 4826-4838, October 2011. An Investigation of Laminar and Turbulent Nanofluid Mixed Convection in a Shallow Rectangular Enclosure Using a Two-phase 	<p>1) One of the suggested references containing the RSM formulation was added to the manuscript.</p> <p>2) One of the suggested references supporting the sentence was added to the manuscript.</p>



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	<p>Mixture Model, International Journal of Thermal Sciences, 75, 204-220, 2014</p> <p>3) At least a reference is needed for Eq. (3).</p> <p>4) Page 5, part 3, "...3D transient simulations are carried out using a 56 000 element mesh,...". Why this amount of meshes has been chosen? The details of "mesh-independence analysis" should to be added to the manuscript.</p> <p>5) At least 1-2 "Numerical Procedure Validation" should be added to the manuscript.</p> <p>6) The effect of inlet velocity (Reynolds number) on heat transfer and solidification should be considered in this research.</p>	<p>3)Eq. does not need any reference given that is easily derived: $v = -Q/A = -M/(A\rho) = -M/(\rho\pi D^2/4)$</p> <p>4) A section named "Mesh-independence analysis" was added to the manuscript. In this section is explained why that amount of elements was employed.</p> <p>5) A section named "Numerical procedure validation" was added to the manuscript. In this section is explained how the model was validated.</p> <p>6) In the manuscript was added a sentence explaining that the effect of the inlet velocity constitutes the matter of future work.</p>
<u>Minor</u> REVISION comments	<p>1) All the References are very old and therefore, they are abolished. May the reviewer ask the author (s) to add some new references (2009 and after) to the work?</p> <p>2) Page 5, part 3, "...a time steps of 1×10^{-4} s and the..." should be corrected to "...a time step of 1×10^{-4} s and the..."</p>	<p>1) Three recent references (2010, 2013 and 2014) have been added to the manuscript.</p> <p>2) This error has been corrected.</p>
<u>Optional/General</u> comments		