



SDI Review Form 1.6

Journal Name:	Physical Review & Research International
Manuscript Number:	2013_PRR1_5866
Title of the Manuscript:	Studying the effect of vertical eddy diffusivity on the solution of diffusion equation
Type of the 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>)



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	<p>1 Fundamental comments As this crosswind concentration problem involves unstable phenomena, it is interesting for researchers. The author presents an analytical solution by means of one-dimension (x-direction) Laplace transformation technique, in which the boundary condition at infinity is exactly and easily taken into consideration. The derived solution for the steady and scalar advection-diffusion equation is correct and compared with experimental data. But substantially this is one-dimensional Laplace solution and mathematically straightforward procedure. Frankly speaking I cannot decide whether this solution is original or not. So I would like to recommend my colleges in the section 3 regarding judgment of originality of the solution. Further some grammatical errors are seen, even in Abstract.</p> <p>2.2 Encouraging comments I would like to dare to give comments as follows: This paper considers the steady and scalar ADE. But unstable phenomena and eddy diffusivity originate essentially from velocity</p>	<p>Please I correct the grammar in the text. Thanks this paper deal with two cases, first if the eddy diffusivity is constant, second if it depends on the vertical height</p>



SDI Review Form 1.6

	<p>fluctuation due to nonlinear effects in momentum equation. Thanks to velocity fluctuations, the concentration fluctuates. Hence the essential phenomena of instability or turbulence is not treated and not yet cleared in this paper, which is a true target of this journal "Physical Review".</p> <p>In this connection, the present results would depend on statistical treatments, although over all agreement between the prediction and observation is obtained in the present paper. But above those situations or backgrounds should be stated in Introduction of this paper.</p> <p>Finally, I would like to recommend the author to extend the present study into unsteady and nonlinear ADEs.</p> <p>I would like to recommend them to review in order to accomplish a peer review , especially to determine the originality of the present solution.</p>	
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments	<p>1. General This paper derives an analytical solution of the steady and scalar advection diffusion equation (ADE) in two dimensions with the crosswind integrated concentration by using Laplace transformation technique. The proposed solution is compared with observation data.</p>	