



**SDI Review Form 1.6**

Journal Name:	<a href="#">Advances in Research</a>
Manuscript Number:	2014_AIR_14195
Title of the Manuscript:	Two Approaches for Solving Non-Linear Bi-level Programming problem
Type of the Article	Original Research Article

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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.

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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)
<b>Compulsory</b> REVISION comments	<p><b>Line: 47.</b> The fuzzy definition is a very poor English language and must be revised carefully by author.</p> <p><b>Line: 91-99:</b> Why should we allocate a penalty for second level (follower) just to convert the problem to a single level problem, since the leader and the follower must be free to act on their own variables in bi-level policy. So how the author can explain the roundness of follower.</p> <p><b>Line: 99.</b> The author is needed to mention that <math>\mu_i</math> is taken as the penalty coefficient.</p> <p><b>Line: 133-171 :</b> These definition or theorems are very trivial and the proofs can be seen in every elementary calculus books , so I strongly suggests to be removed from the paper.</p> <p><b>Line: 257 &amp; 258.</b> There seems to be a contradiction in these two lines , because in line 257 the author has mentioned they reach to a solution in a very less time compare to other references , but in line 258 it is written that they reach to a stability level for both of the variables of x and y after 5000 and 4850 iteration, which is not a less time. So</p>	<p><b>The necessary corrections are done.</b></p> <p>In this paper we use KKT conditions not penalty function to convert the BLPP to single level. Then, in hybrid method, we use the proposed penalty function to covert single level problem to unconstraint problem.</p> <p><b>The necessary correction is done. You can see it.</b></p> <p><b>Some of them have been removed now.</b></p> <p><b>Time of computational is not available in references and it seems that time and iterations in this paper are appropriate for bi-level programming problems. However we changed the less time to appropriate time.</b></p>



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	<p><b>Author must explain this contradiction.</b></p> <p><b>Line: 231.</b> Author must mention that from what kind of penalty function it is used in ex:2 .</p> <p><b>Line: 262-263.</b> The numerical example is not clear that the second level on what variable is acting.</p>	<p><b>It was corrected.</b></p> <p><b>It was corrected.</b></p>
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<p><b><u>Minor</u></b> REVISION comments</p>	<p><b>Line: 42.</b> Methodsare..... Methods are</p> <p><b>Line: 52.</b> Interiorpointmethod..... Interior point method</p> <p><b>Line: 55.</b> In Interior..... The Interior</p> <p><b>Line: 65.</b> <u>On</u> using KKT conditions <u>the</u> problem (1)....</p> <p><b><u>Minor</u></b> REVISION comments</p> <p><b>Line: 173.</b> Then for <u>each</u> <u>x</u> in the</p> <p><b>Line: 183, 184.</b> ..... at the point “a” .....</p> <p><b>Line: 240.</b> With <u>different</u> sizes ....</p> <p><b>Line: 241.</b> ....References of the example in table 4 <u>are as follows</u></p> <p><b>Line: 272 :</b> ..... with <u>different</u> sizes ...</p> <p><b>Line: 185:</b> in this formula <math>P_{x} = f_a + f_{a_x} - a</math> Term <math>P_{x}</math> is not defined in the previous formula.</p> <p><b>Line: 260 .</b> Taylor is not an algorithm and it must be changed to <b>Taylor Theorem</b> or</p>	<p><b>It was corrected.</b></p> <p><b>It was corrected.</b></p> <p><b>It was corrected.</b> <b>It was corrected.</b></p> <p><b>It was corrected.</b></p> <p><b>It was corrected.</b></p> <p><b>It was corrected.</b></p> <p><b>It was corrected.</b></p> <p><b>It was corrected.</b></p> <p><b>It was corrected.</b></p>
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	<p><b>Taylor series approach.</b></p> <p><b>Line: 270.</b> 6 thousand..... 6000</p> <p><b>Line: 286.</b> The bestsolution ..... The best solution</p>	<p><b>It was corrected.</b></p> <p><b>It was corrected.</b></p>
<b><u>Optional/General</u></b> comments	<p><b>1-</b> Can The author give a general method or solution to his own method , which makes the approach valuable.</p> <p><b>2-</b> I suggest the author to add the below reference Which is very close to his approach  <b>" A new method for solving fully fuzzy linear bi-level programming problems".</b>  N . Safaei , M.Saraj .Int j. Of applied operation research. Vol .4 , No.1 , pp. 51-58 , winter 2014 .</p> <p><b>3-</b> The author must be aware oe this point tjhat the bi-level problems are non convex and N.P hard problems , so to get a global minima is not easy.</p>	<p><b>This reference has been added to our references now.</b></p>