



SDI FINAL EVALUATION FORM 1.1

PART 1:

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| Journal Name:            | British Journal of Mathematics & Computer Science                                |
| Manuscript Number:       | 2014_BJMCS_14738                                                                 |
| Title of the Manuscript: | AN OPTIMIZATION PROBLEM WITH CONTROLS IN THE COEFFICIENTS OF PARABOLIC EQUATIONS |

PART 2:

| FINAL EVALUATOR'S comments on revised paper (if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Authors' response to final evaluator's comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <p>From the revision of this paper, the authors claim that the main difference between this paper and [4] lies in the control space. The control space in [4] is constrained whereas the control space in this paper is <math>L_2(\Omega)</math>. But, similar to the proof of Theorem 3.1 [4], in order to prove that the problem (1)-(4) has at least one solution, the authors use the statement “<b>Now we prove the last part as follows: the set <math>V</math> is closed and bounded in <math>L_2(\Omega)</math>.</b>” in the proof of Theorem 1.</p> <p>This statement confuses me! How can you prove the boundness of <math>V</math> in <math>L_2(\Omega)</math>?</p> | <p><i>In [4], the existence and uniqueness theorem is proved under constrained problem with closed bounded space of <math>E_N</math> but here the controls <math>v \in L_2(\Omega)</math> are respected to <math>x, t</math>. In [4] the coefficients <math>\lambda(u(x, t), v)</math> and <math>B(u, v) u_x</math> were respected to <math>u(x, t)</math> and these coefficients also had constraints but in the present paper <math>\lambda(x, t, v)</math> does not depend on <math>u(x, t)</math>. Also, in [4] the sufficient differentiability conditions of the functional and its gradient formulae proved using the modified functional which has given by helping the penalty function method.</i></p> <p>Also the definition of <math>V</math> as follows</p> $V = \{v: v = (v_0(x, t), v_1(x, t)): v_i \in L_2(\Omega), i = 0, 1: \ v_i\ _{L_2(\Omega)} \leq \zeta_i, \zeta_i > 0\}$ <p>can proved <b>the set <math>V</math> is closed and bounded in <math>L_2(\Omega)</math>.</b>”</p> <p><b>We would like to thank you for constructive suggestions and comments</b></p> |