



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	Ms_BJMCS_19573
Title of the Manuscript:	Approximate solutions for a couple of reaction-diffusion equations with self-diffusion

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
In my previous report , I said these two methods are not new because they are applied to many nonlinear PDEs . The authors have no idea about this . See the following published papers applied these methods and not cited in the paper under reviewed : 1. Homotopy perturbation and Adomain decomposition methods for solving nonlinear Boussinesq equations" <u>Communication on Applied Nonlinear Analysis</u>, Volume 15,No.3,(2008),pages 57-70. 2. The homotopy perturbation method for solving nonlinear Burgers and new coupled MKdV equations " <u>Zeitschrift fur Naturforschung A</u>, Verlag der Zeitschrift fur Naturforschung, Volume 63a, No (10) , (2008), 627-633. 3. On using the homotopy perturbation method for finding the traveling wave solutions of generalized nonlinear Hirota- Satsuma coupled KdV equations" <u>International Journal of Nonlinear Science</u>, World Academic Press, World Academic Union, U.K. Vol.7, No.2, (2009), pages 159-166. 4. The traveling wave solutions for nonlinear initial-value problems using the homotopy perturbation method, <u>Applicable Analysis</u>, Vol.88, No.4, (2009) pages 617-634.	We haven't mentioned in the draft of our paper that we are using new methods at all. It can be seen in the abstract that we are solving the reaction-diffusion system with self or nonlinear diffusion (1.1) and (1.2) using three methods. If this system of equations with nonlinear diffusion term have been solved by another and are compared using the three methods as in my draft, the you can say that the results are not new. I don't understand why all these papers you are listing? I have mentioned in the previous replied that, we have given an introduction about HPM and VIM, and we started from the history of these methods The homotopy perturbation method [6], proposed first by He in 1998 and was further developed and improved by He [7, 8]. The method yields a very rapid convergence of the solution series in the most cases. Usually, one iteration leads to high accuracy of the solution. Although goal of Hes homotopy Perturbation method was to find a technique to unify linear and nonlinear, ordinary or partial differential equations for solving initial and boundary value problems. The variational iteration method was first proposed by He [11, 9, 10] and was successfully applied to autonomous ordinary differential equations in [12], to nonlinear polycrystalline solids in [13], and other fields. The combination of a perturbation method, variational iteration method, method of variation of constants and averaging method to establish an approximate solution of one degree of freedom to weakly nonlinear system in [14]. The variational iteration method has many merits and has much advantages over the Adomian method [15] Yes there are many papers about the two methods and it is not necessary to mention all of them.



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5. On solving the KdV-Burgers equation and the Wu-Zhang equations using the modified variational iteration method, International Journal of Nonlinear Sciences and Numerical Simulation, Vol.10,No.9,(2009) pages 1093-1103.

6. On using the homotopy perturbation method and the Adomian Decomposition method for the nonlinear coupled equations" Journal of Partial Differential Equations,China, Global Science Press , Volume 22, No.4, (2009) pages 334-351.

7. The Variational iteration method and the Variational homotopy perturbation method for solving the KdV-Burger's equation and the Sharma- Tasso- Olver equation" Zeitschrift fur Naturforschung A, Vol.65a, (2010), pages 25-33.

8. **On using the modified variational iteration method for solving the nonlinear coupled equations in the mathematical physics”**
Ricerche di Matematica, Springer, Italy, Vol.59 ,No.1, (2010), Pages 137

I advise the authors to read the above references carefully and improve their paper and resubmit again for further consideration.

Therefore, I can not recommend the acceptance of this paper in its present form.