Hydrology and Earth System Sciences Discussions

Interactive comment on "Numerical analysis of Richards' problem for water penetration in unsaturated soils" *by* A. Barari et al.

A. Barari et al.

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Dear Prof. Verhoest

The authors would like to state their greatest gratitude for your kind issues. Actually, there are no technical comments in the reviews. The authors believe that the main reason is that the kind reviewers are not familiar with the general and basic analytical methods such as Perturbation methods and Variational techniques. For instance, the kind reviewer 2, mentioned that the procedure of the methods, is not clear. Actually, authors of this article are some of most famous researchers of analytical methods and aware of capability of the mathematical methods. Of course, this article is not an introduction of the methods. The kind reviewer can get more information about basic

concepts of the methods by some of the old and new references of the application of theses methods such as : He, J. H.: Homotopy perturbation technique, Comput. Meth. Appl. Mech. Eng., 178, 257–262, 1999a. H. Bararnia, E. Ghasemi, S. Soleimani, A.Barari, D.D.Ganji, HPM- Pade' Method on Natural Convection of Darcian Fluid about a Vertical Full Cone Embedded in Porous Media, 2009, Journal of Porous Media, in press

H. Bararnia, Mo. Miansari, A. Barari, G. Domairry , Full heat transfer and flow analysis for the Falkner–Skan wedge flow , International Journal of Modern Physics B, 2009, in press.

Jafar Biazar, Zainab Ayati, Hamideh Ebrahimi, 2009, Homotopy Perturbation Method for General Form of Porous Medium Equation, 12(11), Journal of Porous Media, 1121-1127.

A. Mehmood, A. Ali, An Application of He's Homotopy Perturbation Method in Fluid Mechanics, International Journal of Nonlinear Sciences and Numerical Simulation, 10(2), 239-246.

Mo.Miansari, Me.Miansari, A.Barari, G.Domairry, Analysis of Blasius Equation for Flat-Plate Flow with Infinite Boundary Value, International Journal for Computational Methods in Engineering Science and Mechanics, 2009, in press. F. Fouladi, E. Hossein-zadeh, A.Barari, G. Domairry, Highly Nonlinear Temperature Dependent Fin Analysis by Variational Iteration Method, Heat Transfer Research, 2009, in press. E. Hossein-zadeh, A. Barari, F. Fouladi , G. Domairry, Numerical Analysis of Forth-Order Boundary Value Problems in Fluid Mechanics and Mathematics, Thermal Science Journal, 2009, in press. M. Esmaeilpour, D.D. Ganji, Application of He's homotopy perturbation method to boundary layer flow and convection heat transfer over a flat plate, Physics Letters A, Volume 372, Issue 1, 10 December 2007, Pages 33-38. D.D. Ganji, A. Sadighi, Application of homotopy-perturbation and variational iteration methods to nonlinear heat transfer and porous media equations, Journal of Computational and Applied

Mathematics, Volume 207, Issue 1, 1 October 2007, Pages 24-34.

During the last reviewing process, the reviewer 3 recommend the authors to present iterative methods in the references. It means that he/she was aware of the capability of the methods and the analytical methods used in the current research.

http://www.hydrol-earth-syst-sci-discuss.net/6/3811/2009/hessd-6-3811-2009-discussion.html

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D. D. Ganji, Editor-in-chief of Int. J. of Non. Dyn. and Eng. Sci. (IJNDES) http://www.ijndes.org Editor of Int. J. of Nonl. Sci. and Num. Sim. (IJNSNS) http://www.ijnsns.com/ Editor of International Journal of Differential Equations http://www.hindawi.com/journals/ijde/editors.html http://sciencewatch.com/dr/fbp/2008/08febfbp/

Please also note the Supplement to this comment.

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