Drinking Water
Engineering and Science
Discussions

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Interactive comment on "A pipe network simulation model with dynamic transition between free surface and pressurized flow" *by* J. Fernández-Pato and P. García-Navarro

Anonymous Referee #2

Received and published: 11 March 2014

In this article the authors present a method to simulate pressurized and unpressurized flow in distribution networks. The manuscript needs a major revision before being published. I have some general comments:

0) I miss a concise and clear explanation regarding the relevance of this work: in which situation are pressurized and unpressurized flows relevant?

1) I do understand that English is not the authors' mother tongue, but the article would benefit from a review made by a native speaker.

2) Each parameter that you introduce in your work has to be identified and its units must be given, otherwise it becomes very difficult to follow the work.

Detailed comments:

Page 30, Eq. 3: what are "eta" and "h"?

Page 31, line 19: I find the reference to speed of sound in gases irrelevant.

Page 32, Eq. 13: please indicate clearly that "lambda"=eigenvalues and that "e"=eigenvectors.

Page 32, line 5: I find the reference to Mach nr irrelevant.

Page 32, line 7: Water hammer is presented for the first time in Section 2.2 without being properly introduced. How does water-hammer relate to the situation being studied?

Page 32, line 21: why do you neglect the convective term?

Page 32, Eq. 15: what is "rho"?

Page 34, Eq. 22: What is parameter "bS"?

Page 36, Eq. 36: what are you assuming here?

Page 36, line 15: a "sometimes a storage well junction is used", for what?

Page 37, line 4: what is a "bump"? It had not yet been defined.

Page 53, 54, Fig. 9 and Fig. 10: Please translate the labels of the Y-axis.

Page 55, Fig. 11: please make the Y-axis labels consistent with the ones of Fig.9 and Fig. 10.

Interactive comment on Drink. Water Eng. Sci. Discuss., 7, 27, 2014.