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Limitations of Demand- and Pressure-Driven Modeling for Large Deficient Networks

By

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This paper explores the calculation of the state variables of flows and heads for water distribution systems. Both Demand Driven Modeling and Pressure Driven Modeling are considered. Equations are formulated using a content/co-content approach based on optimization to ensure existence and uniqueness of solutions.

The article provides an interesting review of DDM and PDM modeling. The most relevant and new material presented in the paper are the 4 issues raised in Section 4 of the paper. The authors highlight what the problems are but offer no direct solutions. This is clearly the subject of further research and hopefully will be presented in future papers.

Minor Comments

- I. Page 1, Line 4 – replace ‘cannot’ with ‘may be’
- II. Page 1, line 5 – replace ‘look on’ with ‘look at’
- III. Page 1, Line 21- last word – replace ‘done’ with ‘carried out’
- IV. Page 1, Line 23 – replace the word ‘tension’ – this does not make sense in English in the context presented here
- V. Page 2, Line 4 – last word – replace ‘voiced’ with ‘presented’
- VI. Page 2, Line 23 – replace ‘current on’ with ‘current for’
- VII. Page 3, Line 26 – replace ‘to calculate’ with ‘the calculation of’
- VIII. Page 4, Line 6 – replace ‘prove’ with ‘proof’
- IX. Page 4, Line 14 – after first word ‘matrix’ place a comma
- X. Page 4, Last Line of Page – replace ‘loosens up’ by ‘relaxes’
- XI. Page 5, First Line of Page – replace ‘lays in’ by ‘is in the range’
- XII. Page 5, Line 5 – replace ‘as emitter’ by ‘as an emitter’
- XIII. Page 5, Line 6 – replace ‘and above the’ by ‘and for a head above a particular level’
- XIV. Page 6, Line 4 – replace ‘from literature’ with ‘from the literature’
- XV. Page 6, Line 9 – replace ‘chapters’ with ‘sections’
- XVI. Page 6, Line 18 – replace ‘loosening’ with ‘relaxing’
- XVII. Page 6, Line 20 – 3rd last word – replace ‘allow’ with ‘allows’
- XVIII. Page 6, Line 25 – Replace ‘In respect’ with ‘With respect’
- XIX. Page 7, Lines 1 and 2 – give references for the two software packages that are mentioned
- XX. Page 7, Line 8 – replace ‘this paper gave’ with ‘this paper has given’
- XXI. Page 7, Line 13 – replace ‘It could’ with ‘It can’
- XXII. Page 8 – move top 2 references down to be alphabetical
- XXIII. Page 8, Bhave reference – remove journal of ASCE
- XXIV. Page 8, Line 15 – give complete reference
- XXV. Page 8, Line 16 – the Elhay reference is not mentioned in the paper at all – it should be included

