

Numerical experimentations for a new set of local indices of a water network

Marco A. Bonora¹, Fabio Caldarola¹, Joao Muranho²,
Joaquim Sousa³, Mario Maiolo¹

¹University of Calabria, Arcavacata di Rende (CS), Italy

²Universidade da Beira Interior, Covilhã, Portugal

³Polytechnic Institute of Coimbra, Coimbra, Portugal

marcoamos.bonora@unical.it, caldarola@mat.unical.it, jmuranho@ubi.pt,
jjoseng@isec.pt, mario.maiolo@unical.it

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Very recently in CaMa, a new set of local indices has been proposed for an urban water distribution network together with a useful mathematical framework that organizes and provides the tools to treat the complex of these local parameters varying from node to node. In this talk, the applicability of such indices to various models of both abstract and real hydraulic networks will be explored through direct numerical computations and hydraulic simulations. Furthermore, starting from explicit data sets for these local parameters and using the tools offered by the mentioned mathematical setting, some well known and very frequently used global energetic indicators will be calculated in a new way and through new formulas (for example, measures of resilience, pressure, deficiency, etc.).

Finally, since the tools and the framework proposed in CaMa have the important advantage of favoring in many cases a more in-depth structural analysis of global indices, new interpretations and new implications will be briefly discussed.

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References

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