

Accepted Manuscript

Polynomial Optimization for Water Networks: Global solutions for the valve setting problem

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PII: S0377-2217(17)30197-2
DOI: [10.1016/j.ejor.2017.03.011](https://doi.org/10.1016/j.ejor.2017.03.011)
Reference: EOR 14295



To appear in: *European Journal of Operational Research*

Received date: 8 May 2016
Revised date: 1 March 2017
Accepted date: 2 March 2017

Please cite this article as: Bissan Ghaddar, Mathieu Claeys, Martin Mevissen, Bradley J. Eck, Polynomial Optimization for Water Networks: Global solutions for the valve setting problem, *European Journal of Operational Research* (2017), doi: [10.1016/j.ejor.2017.03.011](https://doi.org/10.1016/j.ejor.2017.03.011)

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Highlights

- We provide global solutions using a quadratic formulation and semidefinite programming
- We formulate the energy conservation as a quadratic rather than cubic constraints
- We exploit the structure of the network to take advantage of sparsity
- We demonstrate that the proposed method outperforms available solvers

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