



# Benefits and Limitations of Simplified Transient Gas Flow Formulations

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## Abstract

Although intensively studied in recent years, the optimization of the transient (time-dependent) control of large real-world gas networks is still out of reach for current state-of-the-art approaches. For this reason, we present further simplifications of the commonly used model, which lead to a linear description of the gas flow on pipelines. In an empirical analysis of real-world data, we investigate the properties of the involved quantities and evaluate the errors made by our simplification.

## Keywords

Transient gas network optimization Linearization Real-world network data analysis  
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## Notes

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